TRANSPORTATION-MARKINGS
DATABASE

COMPOSITE CATEGORIES
CLASSIFICATION & INDEX
DEDICATED TO MY GRANDPARENTS:
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TABLE OF CONTENTS

PREFACE 23

CHAPTER ONE MARINE AIDS TO NAVIGATION

1A Buoys & Other Floating Aids
1A1 Physical Buoys
   a) Overarching Terms
      1) Basic Overarching Terms
      2) Other Overarching Terms
      3) General Overarching Terms for Marine Aids to
         Navigation
   b) Lighted Buoys
   c) Can & Conical Buoys
   d) Spar Buoys
      1) Basic Spar Buoys
      2) Specialized Spar Buoys
   e) Barrel & Cask Buoys
   f) Standard & Non-Standard Buoys
   g) Sound Buoys
      1) Overarching Terms
      2) Bell Buoys
      3) Whistle Buoys
      4) Siren Buoys
      5) Other Sound Buoys
   h) Combination Buoys
   i) Other Physical Buoy Terms
      1) Materials of Construction
      2) Special Names Referring to Physical Structure
      3) Other Specialized Terms

1A2 Buoy Morphology Terms
   a) Location Forms
      1) Approach Buoys
      2) Channel Edge Buoys (or Channel Limits Buoys)
3) In-Channel Buoys
  b) Hazard Buoys 31
  c) Buoy Names From Messages 31
  d) Names from Indirect Navigation Uses Forms 32
     1) Station Buoys
     2) Towing Buoys
     3) Anchor, Anchorage & Mooring Buoys
  e) Special Purpose Buoys 33
  f) Miscellaneous Buoys 33

1A3 Excerpts from Buoy Adjunct Terms 33

1A4 Major Floating Aids Terms
  a) Overarching Terms 34
     1) General Overarching Terms
     2) Overarching Terms for Major Lights
     3) Overarching Terms for Minor Lights
  b) Major Lights 42
     1) Subdivisions
     2) Major Light-Individual Entries
  c) Minor Lights 44-45
     1) Single-Member Structures
        (a) Narrower Types
        (b) Wider Types
     2) Multiple-Member Structures
     3) Enclosed/Composite/Single Structures
  d) Morphological Terms 45
     1) Major Lights
     2) Minor Lights

1B Fixed Visual Aids

1B1 Fixed Lights
  a) Overarching Terms 40-41
     1) General Overarching Terms
     2) Overarching Terms for Major Lights
     3) Overarching Terms for Minor Lights
  b) Major Lights
     1) Subdivisions
     2) Major Light-Individual Entries
  c) Minor Lights 44-45
     1) Single-Member Structures
        (a) Narrower Types
        (b) Wider Types
     2) Multiple-Member Structures
     3) Enclosed/Composite/Single Structures
  d) Morphological Terms 45
     1) Major Lights
     2) Minor Lights

1B2 Daybeacons
  a) Overarching Terms 52
     1) Basic Terms
     2) Shared & Foreign Language Terms
  b) Morphological Daybeacons 52-53
     1) Leading/Range Marks
     2) Signals
     3) Other Morphology Terms
  c) Physical Daybeacon Forms 53-55
     1) Unidirectional
        (a) Established Name
        (b) Local Names
     2) Structural Daybeacons
        (a) Structural Daybeacons Employing Overarching Terms
        (b) Established Names
        (c) Local/Descriptive Names
     3) Natural Marks

Notes: Daybeacons: New Terms & Differences in Studies 56

1C Acoustical & Radio Aids

1C1 Acoustical Aids
  a) Fog Signal Overarching Terms 59
  b) Diaphone, Diaphragm, Reed, & Siren Signals 60-62
     1) Diaphone Signals
     2) Diaphragm Signals
        (a) Overarching Terms
        (b) Diaphragm Signals-Compressed Air

Notes: Major Lights: New Terms & Differences in Studies 47
Notes: Minor Lights: Differences in Studies 48
Notes: Major Lights: New Terms & Differences in Studies 48
Notes: Minor Lights: Differences in Studies 50
1C2 Radio Aids
a) General Overarching Radio Aids Terms 72
b) Radiobeacon Overarching Terms 72
c) Radiobeacons-Main 73
   1) Directional
   2) Nondirectional
   3) Rotating
   4) Composite
d) Radiobeacons-Other 73
e) Radiobeacons-Character of Operation 74
f) Hyperbolic Aids: Overarching Terms, Loran & Decca Forms 74-75
   1) Overarching Aids
   2) Decca
   3) Loran
g) Hyperbolic Aids - Single & Quasi-Single 75
h) Partially Hyperbolic Forms 75-76
   1) Consol Forms
   2) Raydist Forms
i) Radar Aids: Reflectors 76
   1) Overarching Terms & Corner Reflectors
   2) Other Radar Reflectors
j) Radar: Secondary & Primary Radar 76-77
   1) Overarching Terms & Primary Aids
   2) Shoran
k) Transponder Beacons

2 TRAFFIC CONTROL DEVICES
2A Light & Sound Signals 2A
2A1 Traffic Control Signals
   a) Overarching Terms & General Note 83
   b) Specific Entries 83
c) Traffic Signal Operation 83

2A2 Pedestrian Signals 84
2A3 Traffic Signals-Other Types 84
2A4 Flashing Beacons
   a) Overarching Terms 84
   b) Specific Entries 85
c) Lighting Devices 85

2A5 Grade/Crossing/Level Crossing Signals 85
2A6 Sound Traffic Signals 86
Notes: New Terms & Differences in Studies 86

2B Warning Signs 2B
2B1 Categories & Overarching Terms
   a) Categories 91
   b) Overarching Terms 92
2B2 Roadway Alignment Signs
   a) Introductory Note & Overarching Terms 91
   b) Specific Signs 91
2B3 Roadway Condition Signs
   a) Introductory Note & General Terms 92
   b) Specific Signs 92
2B4 Intersection Signs
   a) Introductory Note & Overall Terms 94
   b) Specific Signs 94
2B5 Intermittent Moving Hazard Signs 95
2B6 Construction & Maintenance Signs 97
2B7 Other Hazards Signs
   a) General or Alternate Danger Signs 97
   b) Specific Signs 98
   c) Supplemental Plates/Plaques 99
Notes: New Terms & Differences in Studies 99

2C Informative Signs
2C1 Categories & Overarching Terms
   a) Categories 109
   b) Overarching Terms 109
2C2 Destination & Direction Signs 109
2C3 Route Markers
   a) Introductory Notes & Overarching Terms 110
   b) Specialized Route Markers 110
   c) Route-Marker Tabs 111
2C4 Mileposts 112
2C4 Signs Giving General Information
   Introductory Note
   a) Overarching & Sub-Overarching Terms 112
   b) Services Signs 113
   c) Parking Signs 114
   d) Recreation Signs 114
   e) Miscellaneous Signs 115
Notes: New Terms & Differences in Studies 117

2D Regulatory Signs
2D1 Categories 123

2D2 Priority Signs

2D3 Prohibitory & Restrictive Signs
   a) Prohibitory & Restrictive Signs 123-125
      1) One-way & Both Direction Signs
      2) Categories of Exclusion Signs
      3) Vehicular Exclusion: Weight, Height, & Length Signs
      4) Miscellaneous Signs & Single Category Signs
   b) Prohibitory & Restrictive of Turns & U-Turns
      (About-Turns) Signs 125
   c) Prohibitory & Restrictive of Overtaking (Passing) Signs 125
   d) Prohibitory & Restrictive: Speed Limits Signs 125
e) Miscellaneous, Single Forms, & End of Prohibitive Or Restrictive Signs

2D4 Mandatory Signs 126
2D5 Standing & Parkings Signs 128
2D6 Pedestrian Crossing Signs 129
2D7 Miscellaneous Regulatory Signs 129
2D8 Special Regulatory Signs: Temporary Traffic Control/Railroad Crossing/Schools/Bicycles 129
Notes: New Terms & Differences in Studies 130

2E Traffic Markings
2E1 Overarching & Sub-Overarching Terms
   a) Overarching Terms with General Notes 135
   b) Sub-Overarching Terms
      1) More General Terms 136
      2) More Restricted Terms
      3) Transportation-Marking Studies Category Terms

2E2 Pavement & Curb Markings
   a) Longitudinal Markings 136
      1) Center Line Markings
      2) Edge Lines
      3) Lane Markings
      4) Other Longitudinal Markings
   b) Transverse Markings 138
c) Other Pavement & Curb Markings
2E3 Hazard, Obstruction, Delineation Markings
a) Hazard & Obstruction Markings
b) Delineators
c) Barricades & Channelizing Devices
Notes: New Terms & Differences in Studies

3 RAILWAY SIGNALS, SIGNS, MARKERS

3A General Railway Signal Terms
3A1 Overarching Terms
a) Signals
b) Fixed/Lineside/Railway-Railroad/Wayside Signals
c) Other Overarching Terms
d) Possible/Partial Overarching Terms
1) Energy & Technology-Related Terms
2) Physical-Morphological Overlapping Terms
3) Possible Overarching Terms-Miscellaneous
4) Terms Including Hardware Components

3A2 Message, Morphology & System Terms
a) Messages: Aspects & Indications
1) Color
2) Aspects
3) Indications
b) Morphology
1) Overarching Terms
2) Stop Signals
3) Starting Signals
4) Distant Signals
5) Systems
6) Route & Junction Signals
7) Other Signals-Running Operations
8) Subsidiary Signals

9) Physical Shunting Signals
10) Function-Related Shunting Signals
11) Sidings, Train Yard & Other Signals
12) Message-Related Signal Terms
13) Miscellaneous Signals
c) Systems
1) Overarching Terms
2) Manual Block Signal Systems
3) Controlled Manual Block Signal Systems
4) Automatic Block Signal Systems
5) Absolute/Permissive Signals
6) Other Block Signals
7) Interlocking Signalling
8) Train Control
9) Specific Named Systems
Notes: New Terms & Differences in Studies

3B Fully & Partially-Lighted Signals
3B1 Overarching Terms
3B2 Color Light Signals
a) Principal Signal Types
1) Basic
2) Limited-Variant
3) Variant
4) Signaling
b) Other Color Light Signals
1) Distance Signals
2) Lens Arrangement Terms
3) Morphology & Other Terms
3B3 Searchlight Signals
3B4 Other All-Lighted Signals
a) Single Lens Units: Morphological Dimension
   Frequently Present
1) Signal Terms Slightly More Morphological
   Than Physical

12
2) Signal Terms Somewhat More Morphological Than Physical 
   - Dwarf Signals [Frequently Multiple Lens]
   - Undifferentiated Physical Signals

3B5 Position Light, Color Position Light, & Alphanumeric, Graphic & Geometric Signals
   - Position Light Signals
   - Color Position Light Signals
   - Symbolic Signal Types
     - General Note
     1) Multi-Lamp/Theatre Indicators
     2) Stencil Indicator
     3) Other Indicators

3B6 Cab Signals
   - Major Cab Signal Types
   - Operational Terms - Cab Signals
   - Partly Morphological Terms
   - Other Cab Signals
   - Cab Signals with Sound Dimension [Primarily Acoustical Signal segment]

3B7 Partially-Lighted Signals. Semaphores
   - Overarching Terms
   - Types of Semaphores
     1) Lower Quadrant & Upper Quadrant Signals
     2) Somersault Signals
   - Semaphores: Methods of Operation
   - Semaphores: Morphologically-Related Terms
   - Semaphores: System-Related Terms
   - Other Semaphores Terms

3B8 Partially-Lighted Signals: Signal Boards, Disc Signals & Other Forms
   - Signal Boards
     1) Overarching Terms & Terms in Other Languages
     2) Specific Board Terms
   - Disc Signals

3C1 Unlighted Fixed Types with Constant Message
   - Location Signs
   - Transportation Signs
     1) Speed Control Signs
       - (a) Speed Control & Restriction Signs
       - (b) UAR Speed Signals (=Signs)
       - (c) Speed Zone Signs
       - (d) Other Speed Signs
     2) Location Signs
       - (a) Advance Location Signs
       - (b) Limit & Location Signs
       - (c) Territory Limits Signs
   - Maintenance of Way Signs
   - Safety Signs
   - Marks & Markers
f) Boards & Posts
192

g) Plates & Flags
194

h) Other Devices
194-195
1) Overarching Terms
2) Blue Flags
3) Electric Traction Signs
4) Miscellaneous Signs

3C2 Targets
195
General Note
195
a) Overarching Terms
195-196
b) Morphological-Related Terms

General Note
1) Shape Targets
2) Color & Position Targets
3) Terms Relating to Railroad Functions

c) Other Targets
196
d) Switch Stands
197

Note: Signs; New Terms & Differences in Studies
Including the Problems of Correlating Classifications & Database

3D Acoustical & Radio Signals
3D1 Acoustical Signal Terms
202
a) General Note & Overarching Terms
202
b) Explosive Signals
202
c) Level/Grade Crossing Sound Signals
202
d) Cab & Train Control Sound Signals
203
e) Other Sound Signals
204

3D2 Radio Signal Terms
204
Note
204
a) Overarching Terms
205
b) Satellite Systems
205
c) Other Radio Signals
205

Note: New Terms, General Note & Differences in Studies
205

3E Level/Grade Crossing Signs, Signals, Markers & Other Devices
207

3E1 Integrative Level Crossing/Grade Crossing Signals
207
3E2 Lighted Level Crossing/Grade Signal Crossing Signals
208
3E3 Barriers & Gates
209
a) Barriers, Full Gates, & Gates
209
b) Half Barriers & Gates
210
3E4 Sound Signals
210
3E5 Signs
211
3E6 Open Crossings
212
Note: New Terms & Differences in Studies
212

3F Staff & Ticket, Tablet, Token, Train Order & Time Interval Signals
214
3F1 Staff
214
3F2 Staff & Ticket
215
3F3 Tokens
215-216
3F4 Tablet & Tablet & Tokens
216
3F5 Tokenless Block Working
217
3F6 Train Order
217
3F7 Time Interval
217
3F8 Other Devices
218
Note: New Terms & Differences in Studies
218

CHAPTER FOUR AERO NAVIGATION AIDS
220

4A Overarching Terms: General, Visual & Lighted Terms
220
4A1 General Terms for All Aero Navigation Aids
220
a) Primary Terms
220
b) Specialized Terms
220
4A2 Visual Aids Terms
221
4A3 Sub-Overarching Terms
222

General Note
4A4 Overarching Terms for Lighted Aero Navigation Aids
   a) Light & Lighting Aids Terms 222
   b) Airfield & Airport Light/Lighting Terms 222
4B Beacons & Obstruction Lighting
   General Note 223
4B1 Overarching Terms 223
4B2 Physical Apparatus
   a) Method of Operation-Related Terms 224
   b) Dimension-Related Terms 224
   c) Energy Source-Related Terms 225
4B3 Morphological Terms
   a) Airport Beacons 225
      1) Airfield & Airport Beacons
      2) Code Beacons
   b) Airway Beacons 226
   c) Heliport & Other Beacons 226
4B4 Miscellaneous Beacons & Support Structures
   a) Miscellaneous Beacons 227
   b) Support Structures 227
4B5 Obstruction Lighting
   General Note 227
   a) Overarching Terms 227
   b) Beacons 228
   c) Obstruction Lights-Incandescent & Miscellaneous Types 228
   d) Obstruction Lighting-Strobe & Composite Types 229
4C Approach Lighting
4C1 Overarching Terms
   a) Major 229
   b) Secondary 230
   c) Sub-Overarching Terms 230
4C2 Equipment Terms
   a) Physical Terms 230
   b) Physical/Morphological Terms 231
   c) Support Structures 232
4C3 Approach Lighting Systems
   General Note
   a) Approach Lighting Systems 232
   b) Special Approach Lighting Types 234
   c) Historic Terms
      1) Slopeline Systems 234
      2) Center Line Systems 234
      3) Other Historic Approach Lighting Systems 235
4C4 Final Approach Equipment
   a) Overarching Terms 238
   b) Precision Approach Path Indicators 238
   c) VASIS Systems 239
      1) Systems 239
      2) Operational Types 239
   d) Other Types 240
      1) Glide Path 240
      2) Tri-Color 240
      3) Fresnel 240
      4) PLASI 240
      5) Miscellaneous Systems 240
4D Runway & Taxiway Lighting
4D1 Runway Lighting
   a) Overarching Terms 241
   b) Runway Edge Lights 241
   c) Runway Centerline Lights 242
   d) Threshold, Touchdown Zone, Runway End & Other Lights 242
   e) Runway Equipment Terms 243-245
      1) General Terms 243
      2) Physical Apparatus 244
      3) Light Equipment By Intensity 244
4D2 Taxiway Lighting
   a) Overarching Terms 246
   b) Taxiway Edge Lighting 246
   c) Taxiway Centerline Lighting 246
246-247 4) Composite Systems

c) Hyperbolic Aids
   General Note
   1) Overarching Terms
   2) Loran
   3) Decca
   4) Consol
   5) Omega
   6) Miscellaneous Hyperbolic Aids

   265-266

   d) Satellites Navaids
      1) GPS
         a) Overarching Terms
         b) Specialized & Composite Terms
         c) Navstar GPS
         d) Glonass
      2) Augmentation Terms
         a) DGPS
         b) WAAS & LAAS Augmentation
         c) GNSS
         d) Other Satellite Navigational Systems
            (1) Satellite Navigation Terms
            (2) Transit & US Navy System
            (3) Miscellaneous Systems

   267-271

   4E4 Intercategory Group: Beacons
   a) Nondirectional Beacons
   b) Marks, Markers, Beacons
   c) Miscellaneous Beacons
   Notes: New Terms & Differences in Studies

   272

   262

   263-264 4F Signs, Markings, Markers & Marks
   4F1 General Notes & Overarching Terms
   4F2 Marks & Markers
   4F3 Other Forms
      a) Reflective Aids
      b) Signal Panels, Signal Areas, Indicators,

   286 289 290
PREFACE

The Transportation-Markings Database project (within the T-M Monograph Series) began in 1997 with the publishing of the initial component, Transportation-Markings Database: Marine. That study was joined by T-M Database: Traffic Control Devices (1998), Railroad Signals (2000), Aero Nav Aids (2001) components. Each component included a double index (T-M forms arranged in categories, and an alphabetical index), and descriptive entries for individual T-M forms. Each component, in turn, was divided into major sub-components (e.g. Fixed Lights, Buoys, Radio Aids).

The several category indexes did not ignore the classifications from the earlier modal studies (Parts C/D, E, F, G; the intermodal study of U.S. aids, Part B). But neither did they fully incorporate those classifications. In some instances database category indexes and modal classifications were marked by a substantial correlation, but in other cases indexes and classifications displayed only limited correlation.

This study, Part IV, is a review and revision of the category indexes (which can also be viewed as a form of classification). It examines and more substantially incorporates modal classifications into the Database indexes. The study thereby creates an integrated core for the entire T-M project -- and not only the Database -- by listing all T-M forms. The end result is a consolidated categories classification.

All T-M forms for each transportation mode are grouped together in a single chapter. This contrasts with the current multi-chapter format. Each chapter is then divided into the major forms of that mode. The Index/classifications are accompanied by notes delineating differences between index and text of the Database; differences between database entries and modal classifications; and a listing of new terms. There are no bibliographies or traditional back-of-the-book indexes.
CHAPTER ONE

MARINE AIDS TO NAVIGATION

1A Buoys & Other Floating Aids

1A1 Physical Buoys

a) Overarching Terms

1) Basic Overarching Terms

Aids to Navigation Buoy*
Buoy
Boy/Buoy
Buoyage
Buoyant Beacon
Floating Aid
Floating Beacon
Floating Mark
Marker
Marker Buoy (Multiple meanings)
Navigation Buoy*
Navigational Buoy

2) Other Overarching Terms (Often partial; frequently informal)

Approach Buoy
Automatic Buoy
Deep Sea Buoy
Harbor Buoy
Metal Float
Ocean-Buoy/Ocean Buoy
Oceanic Buoy
Sea Buoy/Sea-Buoy
Seacoast Buoy
Short Range Aids to Navigation*
Signal
Unlighted Buoy
Visual & Audible Aids to Navigation*

3) General Overarching Terms for Marine Aids to Navigation

...
Lantern-Buoy
Light Buoys/Light-Buoys/Lightbuoys
Lighted Buoys
Lighted Marks
Luminous Buoy
Mast Buoy*
Oil Gas Buoy*/Oil Gas Lighted Buoy
Platform Buoy (Light)
Spar Buoy Fitted with Electric Light*
c) Can & Conical Buoys
Can/Can Buoy/Can-Buoy
Can Buoy
Cylinder Buoy/Cylindrical/Cylindrical Buoy
Cone Buoy
Conical/Conical Buoy
Convex Buoy*
Nun/Nun Buoy
Can & Cone Buoy
Fast Water Buoy*
Fast Water Can Buoy
Fast Water Nun Buoy
Special Can Buoy
Tall Can Buoy
Iron Can Buoy
Iron Nun Buoy
Special Nun Buoy
Spindle-Shaped Nun Buoy
Spiral Buoy*
Tall Nun Buoy
d) Spar Buoys
1) Basic Spar Buoys
Spar/Spar Buoy/Spar Buoy
Iron Spar/Iron Spar Buoy
Spindle Type-Tapered Spar
Tubular Spar Buoy
Wooden Spar/Wooden Spar Buoy
2) Specialized Spar Buoys
Floating Beacons (Netherlands includes Spar on Can, Spar on Conical/Can)
Mast Buoy*
Special Forms (These are visually at variance with true Spars and lack separate name; names employed here are descriptive labels)
Spar on Can
Spar on Can/Conical (Norway: this is termed a Spar Buoy; Spar is Standard)
Spar on Cone
Spar on Curved Can (Spar on Can with Curvature)
e) Barrel & Cask Buoys
Barrel/Barrel Buoy*
Cask
Drum Buoy*
Keg Buoy
Oil Drum/Oil-Drum Buoy
Seatonne
Ton Buoy
Tonne
Tun
f) Standard & Former Standard Buoys
Pillar Buoy
Cagework Buoy
Ogival Buoy
Sphere Buoy
Spherical Buoy
Spindle
g) Sound Buoys
1) Overarching Terms
Sound Buoy
Automatic Sounding Buoy/Sounding Buoy*
Sound Signal Buoy
2) Bell Buoys
   Bell Buoy/Bell-Buoy/Bellbuoy*
   Iron Bell Beacon Vessel
   Unlighted Bell Buoy
   Bell Boat/Bell-Boat/Bell Ship
   Boat-Shape Buoy
   Brown Bell Buoy*/Brown’s Bell Buoy

3) Whistle Buoys
   Automatic Buoy/Automatic Signal Buoy
   Automatic Signal Buoy (Whistle)*
   Automatic Whistling Buoy*
   Courtenay Buoy* /Courtenay’s Whistling Buoy
   Large Whistle Buoy
   Unlighted Whistle Buoy
   Whistle Buoy
   Whistling Buoy/Whistling-Buoy

4) Siren Buoys
   Alarm Buoy
   Horn Buoy
   Siren Buoy

5) Other Sound Buoys
   Carillon Buoy
   Gong Buoy

h) Combination Buoys
   Combination Buoy
   Lighted Sound Buoy/Lighted-Sound Buoy
   Boat-Shaped Buoy (With Bell)
   Lighted Bell Buoy
   Lighted Bell Buoy (Can/Conical/Spherical)
   Lighted & Bell Buoy
   Gas & Bell Buoy/Combination Gas & Bell Buoy
   Lighted Whistle Buoy
   Gas-Whistle Buoy/Gas & Whistling Buoy/Gas & Whistle Buoy
   Lighted Gong Buoy
   Lighted Horn Buoy

Submarine Bell Buoy/Buoy Fitted with a Submarine Bell
   Gas, Whistling & Submarine Bell Buoy

i) Other Physical Buoys
1) Materials of Construction
   Foam-Filled Buoy
   Glass-Fibre Buoy
   GRP Buoy
   Iron Buoy
   Metal Buoy
   Oaken Buoy
   Plastic Buoy
   Reinforced Plastic Buoy
   Steel Buoy
   Wood (-en) Buoy

2) Special Names Referring to Physical Structure
   Blind Buoy
   Dan Buoy
   Double Buoy/Relieving Buoy
   Estuary Buoy
   Ice Buoy/Ice-Buoy
   Marker/Marker Buoy (Has Several Meanings Including
      Overarching And Possibly Morphological Meanings)
   Winter Buoy

3) Other Specialized Buoys
   Beacon Buoy (Bake-Germany; Lighted & Unlighted Forms)
   Beacon-Buoy/Beacon-Buoy II
   Perch Buoy Forms
   Perch Buoy
   Log Perch Buoy
   Summer Perch Buoy
   Winter Perch Buoy
   Radio Aids Forms
   Radar Beacon Buoy
   Radar Reflector Buoy*
   Radio Beacon Buoy/Radiobeacon Buoy
Sonobuoy
Son-o-Radio Buoy
Historic Buoy Forms
  Buoy Shapes Subforms
  Egg-Bottomed Buoy
  Flat-Bottomed Buoy
  Flat-Bottomed & Wrought Iron Buoy
  Bottom-Shaped Buoy
Personal Names:
  Captain Harris’s Floating Lighthouse*
  Captain Moody’s Floating Lighthouse*
  Herbert’s Buoy
  Lenox’s Buoy
  Poulters Buoy
  Iron (Herbert’s) Buoy
  Peacock Life Buoy
  Herbert’s or Inverted Cone Buoy
  Refuge Buoy-Beacon
Other Forms:
  Discrepancy (Temporary) Buoy*
  Hollow-Bottom Buoy
  Refuge Buoy-Beacon
  Wandering Buoys*

1A2 Buoy Morphology Terms
a) Location
  1) Approach Buoys
     Approach Buoy
     Bar Buoy
     Farewell Buoy
     Landfall Approach Buoy
     Landfall Buoy/Land Fall Buoy
     Landfall Approach Buoy
     Recognition Buoy
     Sea Buoy/Sea-Buoy
  2) Channel Edge Buoys (or Channel Limit Buoys)
     Starboard Buoy
     Starboard Hand Buoy/Starboard-Hand Buoy/Starboard-Side Buoy/Righthand Buoy
     Port Buoy/Porthand Buoy/Port Hand Buoy/Port-Hand Buoy/Port-Side Buoy
     3) In-Channel Buoys
        Bifurcation Buoy
        Centerline Buoy
        Channel Buoy/Channel-Buoy
        Fairway Buoy
        Junction Buoy/Lighted Junction Buoy
        Lateral Buoy
        Mid Channel Buoy/Mid-Channel Buoy
        Middle-Ground Buoy/Middle Ground Buoy/Middleground Buoy
        Preferred Channel Buoy
        Transition Buoy
        Turning Buoy
b) Hazard Buoys
     Cable Buoy/Cable-Buoy
     Dan Buoy
     Danger Buoy/Isolated Danger Buoy
     Dredging Buoy
     Fish Net Buoy/Fishnet Buoy/Fish-Net Buoy/Fish Trap Buoy
     Obstruction Buoy
     Outfall Buoy
     Practice Area Buoy/Marking of Areas-Military/Military Practice Area Buoy
     Spoil-Ground Buoy
     Telegraph Buoy/Telegraph Cable Buoy/Submarine Telegraph Buoy
     Wreck Buoy/Wreck-Marking Buoy

c) Buoy Names From Messages
   Color Forms:
     Black Buoy
     Green Buoy
Red Buoy
White Buoy
Yellow Buoy
Color Combination Forms:
Black/White Vertical Striped Buoys
Checkered Buoy
Parti-Colored Buoy
Red/Black Horizontal Banded Buoys
Vari-Colored Buoys
White/Black Horizontal Banded Buoys
White/International Orange Buoys
White Buoy with Green Top
Yellow/Black Vertically Striped Buoys
Yellow (Green Top) Buoy/White Buoy with Green Top
Other Message-Based Names Forms:
Intracoastal Waterway Buoy
Topmark Buoy
d) Names From Indirect Navigation Uses
1) Station Buoys
   Station Buoys
   Lightship Station Buoy/Light-Vessel Station Buoy
   Position Buoy/Position Spar
   Watch Buoy/Watch-Buoy
   Marker Buoy (This term has several meanings)
2) Towing Buoys
   Towing Buoy/Towing-Buoy/Towing Spar/Towing-Spar
   Fog Buoy/Fog-Buoy/Fog Spar
3) Anchor, Anchorage & Mooring Buoys
   Anchor Buoy/Anchor-Buoy
   Anchorage Buoy/Aero Anchorage Buoy/Explosive Anchorage
   Buoy
   Light-Vessel Mooring Buoy
   Mooring Buoy
   Hong Kong Mooring Buoy
   Trunk/Trunk Mooring Buoy
   Quarantine Buoy
   Quarantine-Ground Buoy
   Quarantine (Ground) Buoy
   Kedge-Buoy
   Warping Buoy
e) Special Purpose Buoys
   Special Buoy/Special Purpose Buoy/Special-Purpose Buoy/
   Special-Duty Buoy
f) Miscellaneous Buoys
   Compass Adjustment Buoy
   Hauling-Off Buoy
   Measured Mile Buoy
   Seadrome Buoy
   Survey Operations Buoy
   Swing Buoy
1A3 Excerpts from Buoy Adjunct Terms
Marks*
Bifurcation Marks
Buoyage-Marks*
Can Marks*
Channel Marks*
Conical Marks*
Floating Marks
Junction Marks*
Landfall Marks*
Lateral Marks
Lighted Marks*
Outfall & Spoil-Ground Marks*
Port Hand Marks/Port Hand Marks*/Port-hand Marks*/Port-Hand Aids*
Spar Marks*
Spherical Marks*
Starboard Hand Marks/Starboard-Hand Marks*/Starboard Hand-
Markets/Starboard-Hand Aids*
Cardinal Buoys*
Cardinal Marks/Cardinal Markers
North, South, West, East Cardinal Marks
Isolated Danger Marks
Mid-Channel Marks*
Middle Ground Marks/Middle-Ground Marks*
Quarantine-Ground Marks*
Safe Water Marks
Spare Marks
Special Marks
Transition Marks*
Undefined Marks*
Wreck Marks*
Ocean Data Acquisition Marks
Traffic Separation Marks
Spoil Ground Marks
Military Exercise Zone Marks
Cable/Pipeline Marks
Recreation Zone Marks

1A4 Major Floating Aids
a) Overarching Terms
Large Automatic Navigation Buoy*
Large Floating Aids
Floating Light*
Large Floating Navigational Aids
Major Floating Station
b) Lightships & Light Vessels
General Comments I, II
Lightship/Light Vessel (Core Term)
Lightship/Light-Ship
Light Vessel
Human-Related Terms
Relief Ship
Light Vessel/Light Vessel/Light Vessel/Light-Vessel Station
Relief Vessel/Relief Light Vessel/Relief Ship/Relief Lightship/
Relief Light-Ship/Spare Light-Vessel
Attended Light Vessel/“Manned” Light Vessel/Un “manned” Light Vessel
Vessel/Unattended Light Vessel/“Manned” Light Vessel/Automatic Lightship/Automatic Lightship/ “Manned” Lightship/Un “manned”
Lightship/Unattended Light Vessel/Un “manned” Lightship/Unattended Lightship/Automatic Un “manned” Lightship/
Light Vessel/Unattended Lightship/Automatic Un “manned” Lightship/
Light Vessel/Unattended Lightship/Automatic Un “manned” Lightship/
Light Vessel/Unattended Lightship/Automatic Un “manned” Lightship/
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Light Vessel/Unattended Lightship/Automatic Un “manned” Lightship/
Light Vessel/Unattended Lightship/Automatic Un “manned” Lightship/
Light Vessel/Unattended Lightship/Automatic Un “manned” Lightship/
Light Vessel/Unattended Lightship/Automatic Un “manned” Lightship/
Grap Catamarans & Catamarans
d) Large Navigational Buys (LNB)
LNB/Large Navigational Buoy/LAN BY/Large Automatic Navigation Buoy
Superbuoy
Large Buoy
Lighthouse Buoy

Notes
New Terms:
Aids to Navigation Buoy, Wesler 1966
Navigation Buoy, Wesler 1966
Acetylene Buoy, Wesler 1966
Acetylene Gas Buoy, Wesler 1966
Cardinal Buys, IIIIB 1925
Convex Buoy, Edwards 1884
Courtney Buoy, Edwards 1884
Discrepancy Buoy USCG LL 1991
Electrically Lighted Buoy, Part J
Fast Water Buoy, USCG A/N 1990
Floating Lights, Edwards 1884
Foster's Gas-Lighted Buoy, Heap 1889
Large Automatic Navigation Buoy, Renton 2001
Lighted Sea Aids, Part J
Mast Buoy, Edwards 1884
Navigation Sign, Hague & Christie 1975
Oil Gas Buoy, Wesler 1966
Port-Hand Aid, Naish 1985
Spar Fitted with Electric Light, Heap 1889
Spiral Buoy, Edwards 1884
Starboard-Hand Aid, Naish 1985
Barrel Buoy, Wesler 1966
Drum Buoy, Edwards 1884
Sounding Buoy, Edwards 1884
Bell Buoy, Renton 2001
Brown Bell Buoy, Wesler 1966
Automatic Signal Buoy (Whistle), Edwards 1884
Automatic Whistling Buoy, Edwards 1884
Radar Reflector Buoy, Wesler 1966
Captain Harris's Floating Lighthouse, Heap 1889
Captain Moody's Floating Lighthouse, Heap 1889
Discrepancy (Temporary) Buoy
Wandering Buoy, Wesler 1966
Relief Light-Ship, Heap 1889
Automatic Light Floats, Renton 2001
New Terms: Additions to Marks:
Either UN 1957 or LN 1936 (Burton 1980 addition for Port Hand Marks)

Terms from Part J: A variety of terms were added in this study. Some may have been coined because of the nature of the study (all forms of Transportation-Markings in close proximity). Others may have been misnomers or may have become separated from source materials. The terms included All-Metal Buoys, Bell Floats, Electric Lighted Buoy, Pointed Buoy, Sound (Bell) Buoy, Visual

Buoy. They are not included in this study. Two terms are included:
Aids (and other sources)
Short-Based Lights

Differences between index and text of DB include:

Oceanic Buoy in text appears as Ocean in index. The error has been corrected.
Sea-buoy form omitted in text but now added.
Beaconing: omitted in text but now added.
Landmarks omitted in index but Landfall Marks included twice; now included.
Two forms categories listed by shape and non-shape differentiation in index but no entries given. These categories were omitted in text.
Float (with Light) given in index though text included Float (Light) instead. Index form correct since term intended to note Float was of a lighted form though not so stated in title.
Lighted Marks present in index though not in text. Now included in both Platform Buoy (Light) in text but not in index; now added.
Submarine Bell Buoy in text but not index. Questionable since this aid was fully termed Gas, Whistle & Submarine Bell Buoy
Spar: Spindle-Tapered Spar in text altered to more accurate: Spindle Type-Tapered Spar.
Brown's Bell Buoy in text but not in index. This term ineds to be added to Index. Brown Bell Buoy, a new term, adjoins this term.
Boat-Shape Buoy in text under Sound Buoys in Combination Buoys in index. Lighted & Bell Buoy missing from index but now added.
Double Buoy/Relieving Buoy in text but omitted from index; now added.
Hollow-Bottom Buoy in two places in Index but one in text. It is now located in one place: Historic Forms: Other Forms.
Beacon-Buoy and Beacon Buoy II are additional forms found in text.
Radiobeacon Buoy is found in one and two word forms in text. Index altered to reflect that pattern.
Buoy Shapes subforms appears in text rather than Shapes-described forms in index; former practice now adopted for both index and text.

Lenox's Buoy not in text but in index; it is now added.

Land Approach Buoy not in text. This may be a red herring. See correct terms of Landfall Buoy and Landfall Approach Buoy.

Channel Limit forms rather than In-channel forms employed in text; channel limits can be employed for channel edge but not in-channel.

Preferred Channel Buoy in text but not index; now added.

Practice Area Buoy, etc in different locations for index and text. Both are now in Hazard Buoys.

White buoy with green top attached to another entry in text and basic entry not complete. Entry reconfigured and corrected.

Position Buoy and Position Spar in text under Station Buoys. Index placed them under Towing. Both buoys now in Towing for both index and text.

Towing Spar in text with and without hyphen. Index had only later form but now corrected.

Light-Vessel Mooring Buoy in text but now added to index.

Marks and Spare Marks not in text. Spare Marks apparently a red herring. The general term of Marks placed with specific forms in index.

Porthand Marks and Starboard Hand-Markers are questionable since source has not been located.

Superbuoy omitted from Index; added to this study. Iarge Buoy and Lighthouse Buoy separate entries in Text but not in Index; now separate in this study.

Differences between B, C/D, H, and Database index, text:

C/D differentiates Lighted Buoys by shape and by nation. This is not done in Database.

Can and Conical Buoys given by nation in C/D.

Spar Buoys complex order in C/D: arranged by standard, modified, special and nation.

Miscellaneous Buoys = Barrel and Cask in Index in C/D.

Sound Buoys lists basic forms and by nation in C/D.

Combination Buoys: basic forms and by nation in C/D.

Part H reflects many of the practices of Part C/D. It includes Electronic Aids not found in C/D. It also includes Major Lighted Aids not found in C/D including the Lighted Catamaran which is also not in the Database.

Part B incorporates the location classes in the classification as well as materials of construction.
1B Fixed Visual Aids

1B1 Fixed Lights
   a) Overarching Terms
      1) General Overarching Terms
         Fixed Aids to Navigation
         Fixed Lights
         Lights
         Lights on Fixed Structures
         Light Aids
         (Light) Beacon/Lighted Beacon/Light Beacon/Light-Beacon
         Lighted Marks
         Marine Light
         Maritime Lighting
      2) Overarching Terms for Major Lights
         Beacon-Fires*
         Beacon-Light*
         Beacon Tower
         Blazing Beacons*
         Coast Light/Coastal Lights/Coastwise Lights [See also: Morphological Terms]
         Electric Light Station*
         Enclosed Towers*
         Fire-Towers*
         Freestanding Light*
         Lake Light-House
         Land Structures/Land Towers/Land Lighthouse/Land Lights
         Lighthouse/Light-House/Light House
         Lighthouse Beacon
         Lighthouse System
         Light Attached to Keeper’s Dwelling*
         Light Station/Light-Station
         Light-Tower/Light Tower/Lighted Tower*
         Lighted Coastal Beacon
         Major Beacon
         Major Light
         Major Light Structures
         Navigation Light/Navigational Light
         Non-Towers*
         Offshore Light/Offshore Lighthouse
         Open Tower*
         Openwork Structures
         Phare/Faros/Pharos/Pharos
         Primary Seacoast Light [Term is also morphological]
         Rock Station
         Rock Lighthouse*/Rock Lighthouse Tower*/Rock Tower
         Roof-Mounted Light*
         Sea-Light/Sea Lights
         Sea Lighthouse*
         Sea-Girt Towers
         Sea-Navigational Light
         Sea-Swept Lighthouses
         Sea Tower*
         Secondary Light/Secondary Coastal Light [Term is also morphological]
         Shore-Based Lights*
         Shore Structures/Shore Lights
         Structures on Islands & Promontories
         Tall Coastal Towers
         Tower
         Wave-Exposed Towers*
         Wave-Swept Structures/Wave Swept Lighthouses/Wave-Swept Tower
      3) Overarching Terms for Minor Lights
         Beacon/Beacon Light/Beacon-Light/Iron Beacon/Stone Beacon/Wooden Beacon
         Harbor Light/Harbor-Light/Local Harbor Light
         Light Beacon/(Light) Beacon/Lighted Beacon
         Local Light
b) Major Lights

1) Subdivisions

Note to Major Categories
Wave-exposed Lights*
Wave-Swept Towers/Wave-Swept Structures/Wave-Swept Lighthouses/
Sea Girt Lighthouses/Sea-Swept Lighthouses
General Comments
Land Towers/Land Structures
General Comments I, II

2) Major Lights-Individual Entries (Classified according to this schema: L=Probably Land-Based; LT=Possibly either but Tending toward Land location; LM=Land-Based More likely; More=Marine; A number of L Categories entries could be Marine when combined with a Special/ Marine Foundation).

Note: This first entry in DB is very long, complex. The following entry is an alternate formulation for this study.

Cast Iron Lighthouse/Cast-Iron Lighthouse/Cast Iron Tower/Cast Iron Plate Tower
Iron Lighthouse/Iron Light-House
Iron Pile Lighthouse/Iron Pile Light-house
Iron Pyramidal Framework Light-House
Iron-Skeleton Light-House*/Skeleton Iron Light-House*
Iron Tower
Open Iron Structure/Open Iron Tower

Pyramidal Iron Skeleton Tower
Skeleton Wrought-Iron Tower/Skeleton Wrought Iron Tower*
Wrought-Iron Open Framework Structure

Brick Tower
Building/Wooden Building
Concrete Caisson Tower
Concrete Tower/Monolithic Concrete Tower
Cylinder
Dwelling
Enamed Panels on Steel Towers
Frame Tower/Framework/Framework Tower
Granite Tower
House/Wooden House
Masonry Tower
Offshore Light/Offshore Lighthouse
Pile Lighthouse/Pile Light-House
Rock Tower/Rock Lighthouse/Rock Station
Screw-Pile Tower/Screw-Pile Lighthouse/Screw-Pile Foundation/Screw-Pile Structure/Screw-Pile System
Skeleton Steel Structure*
Skeleton Steel Tower/Skeleton Tower/Skeleton Structural Tower/
Lattice Steel Tower/Steel Tower
Skeleton Structure
Skeleton Wood Tower
Stone Tower/Monolithic Stone Tower
Structure
Submergible Lighthouse
Telescopic Lighthouse
Tower on Marine Foundation/Lattice Steel Tower/Steel Tower
Wooden Structure
Wooden Tower
Foundations
Caisson Foundations
c) Minor Lights

1) Single-Member Structures

(a) Narrower Types


(b) Wider Types

General Comments Column Concrete Beacon (Column) Cylindrical/Cylindrical on Marine Foundation GRP Beacon/GRP Beacon Tower Obelisks Pillar Pylon

2) Multiple-Member Structures

Braced Pole Light Cylindrical/Cylindrical on Marine Foundation Dolphin/Dolphin Light/Dolphin Beacon

3) Enclosed/Composite/Single Structures


d) Morphological Terms

1) Major Lights

Coast Light/Coast Station Coastal Beacon/Coastal Beacon Light/Coastal Light/Coastal Lighthouse/Coastal Navigation Aids/(Lighted) Coastal Beacon Coastal Tower*
Coastwise Beacon/Coastwise Beacon Light/Coastwise Light/
  Coastwise
Coasting Light
Feu de Jalonnement
First Class Light/First Class Dioptric Light/First-Order Dioptric
  Light-House/First-Class Fixed Light
Guidance Light/Guiding Light/Guide Light
Hazard Light
Headland Light/Head Light
Landfall Light
Lights of the First Order/-Second/-Third/-Fourth/-Fifth/-Sixth
Main Light
Major Coastwise Light
Making Light
Obstruction
Warning Light/Warning Beacon Light

2) Minor Lights
  Bar Beacon
  Bridge Light/Bridge Navigation Light
  Channel Light/Channel Markers/Channel Navigation Light
  Direction Light/Directional Light/Direction Beacon
  Dock Light
  Fishing Light/Fishing-Light
  Feu De Rive
  Fog Detector Light
  Isolated Danger Light
  Jetty End Light
  Leading Light
  Marine Traffic Light
  Pier Light/Pierhead Light/Pier-Beacon
  Port Light
  Range Light/Range Beacon/Electric Range Light
  Sector Light/Light Sector/Sectored Light/Sector Navigation
    Light/Port Entry Light Sector Light (Partially Major
    Morphological)
  Single Station Leading Light/Single Station Direction Light/Single
  Station Range Light
  Tide Light/Tide-Light/Tide Signal/Tidal Light
  Traffic Signal/Port Traffic Signal

e) Character of Operation Terms
  1) Nature of Operations
     Attended Light/Nonattended Light/Unattended Light
     Automatic Light/Automated Light* "Manned" Light/"Unmanned" Light/"Manned" Lighthouse
     Robot Light*
     Semi-Watched Light
     Watched Light/Unwatched Light/Unwatched Navigation Light
  2) Specific Character of Light Operations
     Auxiliary Light
     Emergency Light
     Main Light
     Occasional Light
     Permanent Light
     Seasonal Light
     Standby Light
     Subsidiary Light
     Temporary Light
     Vertical Light
     Weak Light
     Winter Light

f) Miscellanea
  Aeromarine Light
  Aeronautical Light
  Chapel Lighthouse
  Cottage Lighthouse
  Fire Beacon/Fire Tower
  First Class Light
  High & Low Lights
  Lamp-Post
  Lantern Light
Lighthouse-Ornee
Major Harbor Light/Minor Coastal Light
Private Light
Standing Beacon
Turret

Notes: Major Lights

New Terms:
Beacon-Fires, Adams 1870, Edwards 1884
Beacon-Light, Adams 1870
Blazing Beacon, Edwards 1884
Coastal Lighthouse, Part J
Coastal Tower, Bathurst 1999
Electric Light Station, Edwards 1884
Fire-Tower, Adams 1870, Edwards 1884
Freestanding Light, Stephens 1973
Iron-Skeleton Light-House, Heap 1889
Lights Attached to Keeper’s Dwelling, Stephens 1973
Robot Light, Le & We 2000
Rock Lighthouse, Edwards 1884, Bathurst 1999
Roof-Mounted Light, Stephens 1973
Sea Lighthouse, Adams 1870
Sea-Tower, Adams 1870
Shore & Harbor Lights, Part J
Shore-Based Lights, Englesou 1998
Short-Range Light, Keeler 1987
Skeleton-Iron Light-House, Heap 1889
Skeleton Steel Structure, USCG 1964
Skeleton Wrought Iron Tower, USCG 1964
Wave-Exposed Towers, Part J

Terms are included from classifications in Parts C/D 1988 and Part H 2003 that may represent categories and sub-categories more than they represent actual T-M forms names. Some portion of these terms may have been coined for the classifications, or are variant forms of actual phenomenon.

These terms include:

Non-tower
Open Tower
Closed Tower
Houses on Structure
Tower Attached to House/Building
House on Special Marine Foundations
Tower on Special Marine Foundations
Tower on Skeleton Structure

Differences Between Index & Text in Database: Major Lights:

General Characteristics of Lights terms are partially included in this coverage:
Those terms that suggest a Lighthouse installation and not merely light apparatus are listed.
Iron Towers incomplete in Index; corrected in this study.
Cast-Iron Lighthouses omitted from Index but included in this study.
Many terms beginning with “Coast” or “Guidance” and variants appear in OA in index but in text under morphology. Most are now in morphology though a physical dimension cannot be denied. Some basic forms remain in OA.
Lighted Coastal Beacon was listed in the Index but not in the Text. The term appears in Langmaid 1955 and is included in this study.
Rock Structure in index but listed as Rock Station in the text. Rock Structures appears to be an error and now changed to Rock Station in index.
Secondary Light in index was joined by Secondary Coastal Light in text. The second term is now added to the index.
Tower listed in index but omitted in text. It is now added though a very general that tends toward the vague.
Framework Tower omitted from index but now added. Framework included twice in index and the word Frame also included in index. Those are errors and now omitted.
Structural Tower on Marine Foundation. In index but omitted from text.
Skeleton Wooden Tower. Both index and text omit "en" from Wooden.
Head Light. Text but not index includes this term. It should be added to index.
Warning Beacon Light. In text but not index.
Coastal Station Light in text only.
First Class Light in text only.
Tower in text only.
Standing Beacon appears in text but Standing Light is listed in index. Both should be Standing Beacon.
First Class Light in text only.
Reciprocating Light in text only.
Maritime Light in index should be Marine Light.

Differences Between Classifications & Database:

The Database has a plethora of overarching terms for major lights. It also has many terms for listing individual forms. By contrast, the Classifications are markedly compact. They manifest essentially a three-art subdivision: Major Structures; Sea-Girt; Major Structures: Land-Based Towers; and Non-Towers (H) and Non-Towers/Composite Structures (C/D). H has a variant classification with Major Lights (Lighthouses) as the only heading. The Classifications required limited headings while the Database had to confront the variegated forms.

Notes: Minor Lights

The classifications in C/D 1988 and H 2003 at times employed slightly different terms for categories that those found in the Database. This is also true for formulations of the categories. Nonetheless, the terms are not essentially different from those for the Database ed. as well as this index/ classification.

The word "light" is not employed as frequently for C/D and H terms as it is in the Database. The classifications in the monographs often included "light" in category headings which reduced the use of "light" for T-M forms.

These Notes do not have a new terms category since any new terms are from within the monographs not from outside sources additional sources.

Differences Between Index and Text in Database: Minor Lights

Beacon included in text as overarching term though not in index; that is now corrected. The usage is possibly slightly at variance with that of C/D where it is an undifferentiated term rather than overarching.

Bridge Navigation Light in text but not in index. It is now added.

Cylinder was listed in the Database Index but Cylindrical in text. It is now altered.

Mast Beacon/Beacon Mast in Database text but not the index. That is now rectified.

Riverine Beacon (Light) in Index but should be Riverine Light.

Spindle did not include Light in the Database index but it is included in the text and it should have been represented by a variant form in the original index.

Structure has "light" in text and that is now added.

Wooden Frame. The term is in the Database text though not in the index. It is now added.

Differences Between Parts C/D & H, and Database: Minor Lights

“Beacon” is found in C/D for undifferentiated aids under that heading. It is added though not a term of precision.

Dolphin was found only in C/D. But it is now added.

House/Hut on Structure/Pile Structure/Tripod are three group names in C/D. Though not elsewhere. It is now added.

Lattice Tower required the addition of a middle word: “steel” in index.

Mast is listed in C/D but not in H or the Database. It is now added.

Pedestal Light is listed in C/D but not in H or Database. It is now added.

Pile Pyramidal is found in H but not elsewhere. It is new included.

Spindle Light has no hyphen in H.

Standard Structures on Special Foundation. This was a “catchall” term in H. It is included though it is not an individual term.

Tripod employed in C/D and is now added.
1B2. Daybeacon Terms

a) Overarching Terms

1) Basic Terms
   - Beaconage* /Beaconage System*
   - Daybeacon/Day Beacon/Day-Beacon
   - Fixed Beacon
   - Shoreside Marker*
   - Stationary Beacon
   - Unlighted Beacon/(Unlighted) Beacon

2) Shared & Foreign Language Terms
   - Bake
   - Bak (Norw)*
   - Balise
   - Balise Fixe
   - Beacon
   - Daymark/Day Mark/Day-Mark
   - Stehende Bake

b) Morphological Daybeacons

1) Leading/Range Marks
   - Clearing Marks
   - Day-Beacon Range
   - Leading Marks
   - Crossing Mark*
   - Crossing Transit Mark*
   - Range Beacons
   - Range Marks/Rangemarks
   - Range Target Marks
   - Transit Marks

2) Signals
   - Deck Signals
   - Harbor Signals
   - Lock Signals
   - Port Signals
   - Tide Signals

3) Other Morphology Types
   - Cable Marks*
   - Diamond Beacon
   - Landfall Beacon
   - Mark Indicating Bank to Hug*
   - Mark Indicating Prohibited Entrance, or "Danger"*
   - Shore Marks*
   - Warning Regulatory Marker
   - Winter Marker

c) Physical Daybeacons

1) Unidimensional
   (a) Established Names
      - Perch
      - Pile
      - Pile Beacon/Pile-Beacon
      - Pillar
      - Pole/Single Pole
      - Pole Beacon
      - Post/Post Beacon/Post Beacon Structure
      - Post-Mark
      - Spar
      - Spindle/Spindle Structure

   (b) Local Names (Some may overlap with above terms)
      - Beacon Pole
      - Board
      - Braced Pole
      - Channel Stake
      - Column
      - Concrete Pile
      - Edgemark
      - I-Beam/I-Beam Mast
      - Iron Pile
      - Iron Pillar
      - Iron Post
Iron Spindle
Mast
Pipe Spindle
Post-Mark
Sandbank Beacon
Single Pile
Single Pile-Concrete/-Wood/-Steel
Single-Pile Beacon
Single Pile Structure
Single Wooden Beacon Structure/-Steel Beacon Structure/-Concrete Beacon Structure
Single Pile Wooden Structure/-Steel Structure/-Concrete Structure
Shaft/Iron-Shaft/Stone Shaft
Spindle Structure
Staff
Stake
Steel Pile/Single-Steel Pile
Stump*
Wrought Iron Mast
Wrought-Iron Pole*
Wooden Post

2) Structural Daybeacons
(a) Structural Daybeacons Employing Overarching Terms
Bak*
Bake
Bake
Beacon
(b) Established Names
Dolphin
Tripod/Tripod Beacon
(c) Local/Descriptive Names
Cylinders*
Cylindrical Structures*
Enclosed Structure*

3) Natural Marks
Birch Tree Beacon
Cairn
Landmarks*
Petit Arbre/Small Tree*
Prick
Stone Construction
Tree Branch (Natural Form, Tied-down Branch)*
Twig*
Withy

Notes: Daybeacons

New Terms:

Bak, Sweden 1985
Beaconage, Kerchove 1961, Naish 1985, USNOO 1969
Beaconage System, Part J
Caapea, Naish 1985
Cylindrical Structures, Edwards 1884
Enclosed Structures, Part H
Landmarks, IALA 1970
Lattice-work Structure/Latticework, Parts C/D
Obelisks, H & C 1975
Shore Beacon, Rogers 1985
Shoreside Marker, Roger 1985
Stump, Sweden 1985
Timbered Beacon, Naish 1985
Tree Branch, IHB 1956, Parts C/D, H
Twig, Naish 1985
Wrought-Iron Pole, Heap 1889

New Mark Terms, UN 1957
  Cable Mark
  Crossing Mark
  Crossing Transit Mark

Main Bank Mark
Mark Indicating Bank to Hug
Mark Indicating Prohibited Entrance, or “Danger”
Shore Marks

Differences Between Index and Text of Database:

(Unlighted) Beacon: “Beacon” omitted in Database.
Leading Marks: Listed in heading but not listed as component term in Database.
Pole Beacon: Listed as Beacon Pole of text.
Post Beacon Structure: Not listed in text though in index.
Single Pole: Not listed in text but in index.
Post-Mark: In text but not in index.
Single Pile-Concrete/-Wood/-Steel is now split off from Single Wooden Beacon.
Bake terms have been reworked; Bak (Sweden) has been added.
Multiple Pile forms have been reworked.

Explanations of practices and special terms in Database:

Morphological Daybeacons: character not fully known. Some may be partially or
entirely lighted in character.
Physical Daybeacons b) Local names: Some terms are both physical and
morphological: Channel stake, Edgemark, Sandbank beacons
Structural Daybeacons: Database merged two groups together (Open Structures,
and Enclosed & Solid Structures) and this study continues that unitary
approach.

Terms not in English: “Trans-national” terms (e.g. Bake) are retained. But more
restricted terms not included (e.g. Swedish “Ros” for cairn).

Terms of uncertain character are retained if specific nature not easily ascertained
or if they spill over into other forms (e.g. signals which can also be lighted at
least in part).

Variant forms in Physical Daybeacons should probably be kept together unless a
reason for separation is present (e.g. posts and wrought-iron posts).

Differences Between Parts C/D and H and Database:

The original classification of Part C/D lacked main and variant forms. Part H added main and variant subdivisions with many specific forms in the variant classification only. Two terms in the Classification proved to be questionable: Lattice-work Structure/Latticework were employed in C/D and H but are not fully accurate; they were replaced by Slatted Structure in the Database. The term Artificial Marks was employed in H for built-forms; constructed forms would have been preferable.
Sound Signal Buoy
Sound Signalling Device*
Steam Fog Alarm**
Steam Fog Signal
Trumpet*

b) Diaphone, Diaphragm, Reed, & Siren Signal

1) Diaphone Signals

Air Diaphone
A-Type/B-Type/C-Type Diaphone/F-Type/F Type
Diaphone/Double-Tone Diaphone/F Type, F2T/G-Type/G-Type
Diaphone/K-Type/Twin K Type Diaphone/L-Type/Twin K Type
Diaphone*
Diaphone
Diaphone Horn/Diaphone Fog Horn/Diaphone Fog Signal/
Diaphone Signal
Diaphone Two-Tone/Double-Tone Diaphone
Steam Diaphone
Two-Tone Diaphone
Vertical Diaphone

2) Diaphragm Signals

(a) Overarching Terms

Diaphragm
Diaphragm Horn/Diaphragm Fog Signal
Horn
Horn, Diaphragm
Mismomers: Air Whistle, Steam Whistle

(b) Diaphragm Signals-Compressed Air

Air Horn
Air Diaphragm Horn**
Chime/Chime Signal/Air Chime Diaphragm*
Compressed-Air (Diaphragm) Horn
Diaphragm Air Horn*
Horn, Chime, Diaphragm/Horn, Diaphragm, Chime
Horn, Compressed-Air

(c) Oscillator Signals

Diaphragm Horn, Electric
Diaphragm Horn, Electric Oscillator Type
Diaphragm, Oscillator/Diaphragm (Oscillator
Electric Air Oscillator**
Electric Fog-Horn/Electric Fog Horn
Electric Fog Signal
Electric Fog Signal Apparatus
Electric Fog Horns*
Electric Horns*
Electric Diaphragm Emitter
Electric Diaphragm Horn**
Electric Emitter*/Electric Sound Emitter*
Electromagnetic Horn (Electromagnetic Air) Oscillator
Electromagnetic Oscillator
Electric Fog Signal*
Electric Signal*
ELU 500 Pure Tone Electric Emitter*
ELU 800 Electric Emitter*
Emitter*
High Fidelity Electric Fog Signal*
Horn, Electric Magnetic Oscillator
Horn, Oscillator
Lighted Horn Buoy
Low Power Electric Sound Signal*
LP HF Electric Emitter*
Nautophone
Oscillator
Pure Tone Signal
72-Tannoy-Speaker Electric FS*
Short Range Electric Signals*
Triple Frequency Emitter Stack*
Triple Frequency Fog Signal*

3) Reed Horns
Air Trumpet
Barker Horn*/Barker Reed*
Daboll’s Fog Horn*
Daboll Reed*
Daboll Trumpet/Daboll’s Rotating Trumpet*
Equine Trumpet
Fog Trumpet
Hand Fog Reed Horn/Hand-Horn/Hand Horn
Hand-pumped Reed Signal*
Holmes Hand Horn*
Holmes Reed*
Manual Reed*/Manual Reed Horn*
Norwegian Horn*
Reed
Reed Fog Signal
Reed Horn/Reed-Horn*/Reed Horn Fog Signal
Reed Signal
Reed Trumpet
“Standard Reed”*
Steam Trumpet/Trumpet
Stentor Reed*/Stentor Horn*

4) Sirens
Air Siren
Automatic Siren*
Brown Siren*
Brown Syren Trumpet*
Compressed Air siren*
Disc Siren*
Double-Siren**
Automatic Fog Gun
Breech-Loading Gun*
Cannon
Cannonade*
Clockwork Explosive Fog Signal*
Eighteen-Pounder Gun*
Explosions**
Explosives**
Explosive Charge
Explosive Coast Fog-Signal**
Explosive Emitter
Explosive Fog Signal/Fog Explosive/Fog Explosive Signal
Explosive Signal
Explosive Sound Signal
Gas Explosive Signal*
Fog Cannon
Fog-Signal Gun
Fog Gun/Fog-Gun
Gun/Gun Signal
Howitzer*
Moyes Gun*
Muzzle-Loaded Gun*
Radio-Controlled Acetylene Gun*
Rocket
Sound Rocket/Sound-Rocket
Special Gun*
Tonite Explosive Signal

2) Percussion Signals
   Percussion Aids*/Percussion Devices
   Aerial Bell
   Automatic Bell
   Automatically-Operated Fog Bell*
   Bell
   Bell Boat/Bell-Boat/Bell-Ships
   Bell Buoy/Bell-Buoy

Brown’s Bell Buoy
Carillon Buoy
Compressed-Gas Bell Buoy
Drum**
Electric Bell**/Bell Electric**
Fog Bell/Fog-Bell/Fogbell
Fog Gong
Gong
Gong Buoy
Hand-Operated Bell*
Lighted Bell Buoy
Lighted Gong Buoy
Mechanically Operated Fog Bell*
Perpetual Fog-Bell
Steam Gong
Unlighted Bell Buoy/Unlighted Bell-Buoy
Wave-Actuated Bell*
Wave-actuated Buoy (Bell)*

D) Submarine Signals
   Air Oscillator*
   Automatic Submarine Signal
   Electric Oscillator*
   Fessenden Oscillator**
   Submarine Bell/Submarine-Bell
   Submarine Fog-Bell
   Submarine Fog Signal
   Submarine Oscillator/Oscillator
   Submarine Signal
   Submarine Signalling/Submarine Signalling System*
   Submarine Sound Signal
   Submerged Bells
   Underwater Bell
   Underwater Oscillator
   Underwater-Signal

E) Whistles
Air Fog Whistle/Air Whistle
Automatic Buoy/Automatic Signal Buoy
Courtenay’s Whistling Buoy
Crosby Automatic Fog Signal
Fog Whistle/Fog-Whistle
Leslie-Tyfon Steam Whistle **
Lighted Whistle Buoy
Locomotive Whistle
Self-Acting Fog-Horn
Ship’s Whistle*
Six-inch Whistle*/Twelve-inch Whistle*
Sound Signal Buoy
Steam Fog Alarm**/Steam-Whistle Fog Alarm*
Steam Fog Signal
Steam-Powered Whistle
Steam Whistle/Steam-Whistle/Steam Fog-Whistle/Steam-Whistle
Fog Signal*
Vernon-Smith Whistle***
Wave-Actuated Whistle
“Whistle” (Seconmark)*
Whistle (Misnomer)
Whistle Buoy
Whistling Buoy/Whistling-Buoy
Unlighted Whistle Buoy

f) Miscellaneous Signals
“Bird Fog Signal”*
Echo Boards*
Natural Fog Signal/Natural Fog-Signal
Natural Signal**
Natural Sound-Warnings
Piston Horn*/Electric Piston Horn*
Talking Beacons*

Notes
Explosives appears in Parts C/D and in II. Part II adds a qualifying or explicating term to the basic term in all cases but never the core term alone. Renton also includes Explosives.

Air Diaphragm appears in USCG 1953, 25-2 but it was not included in Part II. Electric Air Oscillator also appears in USCG 1953. Electric Diaphragm Horn also appears in the aforementioned source as does: Steam Diaphragm Horn (formal name for USCG is Horn, Diaphragm (Steam). Bell, Electric or simply Electric Bell is a final USCG entry.

Hand-Operated Bell*

The term Cannon---Guns in USCG seems to be a combination of fog signal either cannon or gun in form.

New Terms: Renton

Air Chime Diaphragm
Air Diaphragm Horn
Air Oscillator
Air Signal
Automatically-Operated Fog Bell
Automatic Siren
Barker Horn/Barker Reed
“Bird Fog Signal”
Breech-Loading Gun
Brown Siren
Brown Syren Trumpet
Cannonade
Coastal Fog Signal
Clockwork Explosive Fog Signal
Compressed Air Siren
Daboll's Fog Horn
Daboll Reed
Daboll's Rotating Trumpet
Diaphragm Air Horn
Disc Siren

Eighteen-Pounder Gun
Electric Air Oscillator
Electric Diaphragm Horn
Electric Fog Horns
Electric Emitter/Electric Sound Emitter
Electric Fog Signal
Electric Horn
Electric Motor Siren
Electric Oscillator
Electric Signal
ELU 800 Electric Emitter
ELU 500 Pure Tone Electric Emitter
Emitter
Explosives
Explosive Coast Fog-Signal
First Class Fog Signal
Fog Trumpet
Gas Explosive Signal
Hand-pumped Reed Signal
High & Low Siren
High Fidelity Electric Fog Signal
Holmes Reed
Howitzer
Lighthouse Fog Siren
Long-Range Signals
Low Power Electric Sound Signal
LP HF Electric Emitter
Manual Reed/Manual Reed Horn
Mechanically Operated Fog Bell
Moyes Gun
Muzzle-Loaded Gun
Norwegian Horn
Percussion Aid
Percussion Device
Piston Horn/Electric Piston Horn
Port Siren
Radio-Controlled Acetylene Gun
Rayleigh Siren
Rayleigh Trumpet
Reed-Horn
7-inch Siren
Special Gun
Submarine Signalling System
Secomark Siren
Service Siren
72-Tannoy-Speaker Electric FS
Single Automatic Siren
Short Range Electric Signals
Short Range Signals
Ship’s Whistle
Six-inch Whistle
Sound Signalling Device
“Standard Reed”
Steam-Powered Signal
Steam-Whistle Fog Alarm
Steam-Whistle Fog Signal
Stentor Reed/Stentor Horn
Supertyfon Air Horn/Supertyfon Air Signal/Supertyfon Fog Signals/Supertyfon Signal/Two-Note Supertyfon
Talking Beacon
Triple Frequency Emitter Stack
Triple Frequency Fog Signal
Trumpet
Twelve-inch Whistle
Twin 5-Inch Siren
Twin K Type Diaphone
Wave-actuated Bell
Wave-actuated Buoy (Bell)
“Whistle” (Secomark)

Differences Between Index and Text of Database:

Batching of terms in the Database has been reduced in this study which thereby simplifies entries.

Alarm Signal was present in the text but not in the index of the Database.
Fog-Signalling Apparatus in index appeared as Fog Signal Apparatus in text.
Horn in index for OA but only in Diaphragm for text; it probably should appear in both places.
Steam Fog Alarm in Brock 1974 refers to Diaphone signal but can appear in OA as well.
Diaphone Fog Horn appears as two words in text but one in index.
Steam Diaphone: any extant sources have not been located.
Double-Tone Fog Horn in index but Double-Toned in text.
Mismers refer to Whistles which text includes under Whistles but retained here as well.
Chime Signal in text but in index.
Diaphram Signals are unitary in text but subdivided into OA and Compressed-Air in index. However, nuanced differences may be misrepresented with that subdivision.
Horn (for Reed) does not appear in text. But OA entry notes refer to Reed.
“Police Type” siren appears in text but not in index: it is now added.
Explosive Signals are formulated differently in index than in text. Batching is less a feature of the index.
Fog Gong not in text.
Lighted Bell Buoy not in text but to be added. Index included in Percussion as well as in Whistles. It is now removed from Percussion.
Self-acting Fog-Horn appears in Whistles for text.
Submarine Fog Signal not in text. An uncertain term but retained for now.
Submarine Marine Fog Signal. Second “Marine” should be omitted.
Courtenay’s Whistle Buoy in index becomes Courteney Whistling Buoy in text.
Sound Signal Buoy not in text.
Steam Gong not in index, but now added.
Steam-Whistle not in index, but now added.
Steam Fog-Whistle not in index, but now added.
Unlighted Whistle Buoy not in text. This should probably be added to text.

Differences Between Classifications & Database:

The Classifications employed a range of overarching terms. Only one, Fixed Fog Signals, does not appear in the Database. The term differentiates fixed location signals from floating forms. The term has been added to this study. One other term, Explosives, has been added to the study from the Classifications. The Classifications have relatively limited terms. For that reason terms were often divided between groups with a variety of forms, and single types in which distinct forms had a unitary nature. The Database did not follow that pattern because many more terms were present.

1C2 Radio Aids
a) General Overarching Radio Aids Terms
   - Ground-Based Navigation Aids*
   - Electronic Aids to Navigation
   - Electronic Navigation Aids
   - Electronic Navigation Systems
   - Marine Navigation Systems
   - Navigation Aids
   - Navigational Aids
   - Position Fixing Systems
   - Radio Aids
   - Radio Aids to Marine Navigation
   - Radio Aids to Maritime Navigation
   - Radio Aids to Navigation
   - Radio Navaids*
   - Radio Navigation Aids/Radiowave Aids
   - Navigational Aids
   - Radionavigation Systems/Radio Navigation Systems

b) Radiobeacon Overarching Terms
   - Beacon
   - Marine Radiobeacons
   - Marine Nondirectional Beacon*

Maritime Radio Beacons*/Marine Radiobeacons*
Omnirange/Omnidirectional Range
Radiobeacon/Radio Beacon/Radio Beacon Station/ Radio Beacon Station*
Radio Beacon Fog Signal
Radio Fog Signal/Radio Fog-Signal
Radiophare
Wireless Beacon
Wireless Fog Signal
Wireless Lighthouse

c) Radiobeacons-Main
   1) Directional
      - Course Beacon
      - Directional Beacon/Directional Radiobeacon/Directional Beacon (Radio Ranges)/Directional Radio Beacon
      - Direction Finding Beacon/DF Beacon
   2) Nondirectional
      - Non-directional Radiobeacon/(Non-directional) Radiobeacon
      - Circular Radiobeacon/Circular Beacon
      - Fixed Non-Directive Marine Beacon*
   3) Rotating
      - Revolving Radiobeacon
      - Rotating Loop Radiobeacon
      - Rotating Radiobeacon/Rotating Beacon
      - Rotational Pattern Radiobeacon
   4) Composite
      - Omni-Radio Beacon
      - Omnidirectional Beacon

d) Radiobeacons-Other
   - Aero Radio Beacon
   - Aeromarine Radio Beacon
   - Automatic Radiobeacon*
   - Calibration Station
   - Class A Radiobeacon*
   - Coastal Beacon*
Equisignal Beacon
Marker Radio Beacon/Marker Beacon/Marker/Radio-Marker Beacon
QTG Service/Radio Station with QTG
Radiobeacon Buoy
Radio Compass Station/Radiocompass Station*
Radio Direction Finder (RDF) Station/Radio Direction-Finding Station
Secondary Radio Aids to Navigation
Short-Range Radiobeacon
VHF Radio Lighthouse Beacon
c) Radiobeacons—Character of Operations
Continuous Carrier Radio beacon
Continuous Radio beacon
Dual Carrier Radiobeacon
Group Sequence Station
Sequenced Radiobeacon
f) Hyperbolic Aids—Overarching Terms, Loran & Decca
1) Overarching Terms
   Hyperbolic Aids
   Hyperbolic Navigation Systems
   Hyperbolic Radio-Navigation Systems*
2) Decca
   Decca
   Decca Chain
   Decca Navigator/Decca Navigator System/Decca Navigator Chain
   Decca Lambda (see also Lambda)
   Decracs
   Dectra
   Dectra Chain
   Hi-Fix
   Lambda (see also Decca Lambda)
   Mini-Fix
   QM
   Sea-Fix
   Trunk Route Decca
   Two-Range Decca
3) Loran
   Chaika/Chayka
   Cyclan
   Cytac
   Differential Loran-C/DLoran*
   Electronic Position Indicator (EPI)
   Gee
   HF Loran/H.F. Loran*
   Hyperbol
   Loran
   Loran-A, -B, -C, -D, -E
   Loran Chain
   Loran GNSS (Logic)*
   Loran System
   LF Loran/L.F. Loran*/Low Frequency Loran/Low-Frequency Loran*
   Standard Loran
   SS Loran/S.S. Loran*/Skywave Synchronized Loran
g) Hyperbolic Aids—Single & Quasi-Single
   Differential Omega
   Hi-Fix
   Omega
   POPI
   Radux
   Radux-Omega*
   Rana
   Toran
h) Partially Hyperbolic Aids
1) Consol
   BPM-5
   Consol
   Consolan
   Elektra/Electra
   Sonne
Two-Aerial Consol

2) Raydist
   Lorac
   Hyperbolic Raydist
   Pure-Range Raydist
   Raydist
   Raydist, Type DM, Type DR, Type E, Type M, Type N

i) Radar Aids-Reflectors
1) Overarching Terms & Corner Reflectors
   Radar Reflectors
   Reflectors*
   Corner Reflectors
   Octahedral Cluster
   Pentagonal Reflector
   Radar Corner Reflector
   Trihedral Reflector

2) Other Radar Reflectors
   Dielectric Reflectors
   Dihedral Reflectors
   Luneberg Lens/Luneberg Reflector
   Parabolic Reflector
   Radar Buoy
   Radar Reflective Buoy
   Right Angle Reflector

j) Radar Aids-Secondary & Primary Radar
1) Overarching Terms & Primary Aids
   Microwave Position Fixing Systems
   Primary Radar
   Radar Aids*
   Radar Aids to Navigation
   Radar Navaids*
   Ratan

2) Shoran
   Electronic Position Indicator
   Hiran

3) Transponder Beacons
   Cross-Band Ramark*
   Derveaux
   In-Band Racon*
   In-Band Ramarks*
   Racon
   Racon Responder Enhancer
   Radar Beacon
   Radar Marker*
   Radar Marker Beacon
   Radar Marker Buoy
   Radar Navaids*
   Radar Responder Buoy*
   Radar Transponder Beacon*
   Ramark
   Responder Beacon
   Secondary Radar
   Transponder/Transponder Beacon

k) Satellite Navigation Aids
1) Overarching & Other Terms
   Marine Satellite Systems
   Navigational Satellite
   Satellite
   Satnav/Satellite Navigation/Satellite Navigation System
   Satellite-Based Navigation*/Satellite-Based System*
   Satellite-Based Radionavigation System*
   Aerosat
   Starfix

2) GPS
   Differential GPS
   Global Positioning System (GPS)
   Glossnless
Maritime Differential GPS (DGPS)
Maritime GPS*
Navstar/Navstar-GPS/Navstar GPS*
NGPS*
Omnistar*
WAAS & LAAS in Marine Navigation*

3) Navy Transit Satellite Navigation Systems
Cicada/Tsikada*
Navsat i and Navsat ii
Navy Transit Satellite Navigation System
NNSS/Navy Navigation Satellite System
Transit/Transit Navigation Satellite System
US Navy Satellite System/US Navy System

4) Other Satellite Systems
DGNSS, Differential DGNSS*
Conventional DGNSS*
Precise DGNSS*
Galileo*
GNSS, Global Navigation Satellite System*/Global Navigation Satellite System (GNSS)*
US Air Force System

1) Other Radio Aids
1) Radio/Sound Aids
Distance Finding Station
Radio Sonobuoy
Rafos
Sofar
Sonobuoy
Sono-Radio Buoy
Synchronized Radiobeacon & Air Fog Signal
"Talking Beacon"

2) Miscellaneous Aids
A-N Radio Range
Benito
Fixed Non-Directive Marine Beacon*

Notes

New Terms:
Automatic Radiobeacon, O'Brien 1983
Class A Radiobeacon, O'Brien 1983
Coastal Beacon, FRP 1990
Fixed Non-Directive Marine Beacon, Keen 1938
Global Navigation Satellite System (GNSS), ICAO 1997
Marine Nondirectional Beacon, Williams 1992
Low-frequency Loran, Casabona, Hall 1947
H.F. Loran, R.A. Smith 1948
S.S. Loran, R.A. Smith 1948
L.F. Loran, R.A. Smith 1948
Radar Marker, USNOO 1969
Radar Transponder Beacon, Grover 1957
Radux-Omega, Blanehard 1991
Reflectors, Williams 1992
Radar Responder Beacon, IRI: 1949
Cross-band Remarks, Wylie 1976
In-band Racons, Wylie 1976
In-band Remarks, Wylie 1976

APN
Explosions, 1938
Fog-Signal Station, 1914
Fog-Signaling Apparatus, 1938
Radiobeacon Station, 1928
Radiocompass Station, 1928
Short Range Aids to Navigation, 2002
Visual & Audible Aids to Navigation, 1977
WAAS & LAAS in Marine Navigation, 2002

Hofmann-Wellenhof 2003:
Conventional DGNSS
DGNSS, Differential GNSS
D Loran/Differential Loran-C
Galileo
GNSS, Global Navigation Satellite System
Ground-based Navigation Aids
Loran GNSS (Logic)
Maritime GPS
Maritime Radio Beacon
Navstar GPS [without hyphen]
NGPS
Omnistar
Precise DGNSS
Satellite-based Navigation
Satellite-based System
Tsikada [alternate name for Cicada]

NIMA
Maritime Differential GPS (GPS)
U.S. Air Force System

Parts C/D 1988:
Hyperbolic Radio-Navigation Systems

Part H 2003:
Radar Aids

Part J 2002:
Radar Navails
Radio Navails

Differences Between Index & Text in Database:

Marine Navigation Systems was replaced by Maritime Navigation Systems in index. It now reverts to Marine.
Radio Aids to Marine Navigation is in index but not in text. However, Kemp includes term and it is therefore retained.
Radio Navigation System appears in text but omitted from index. It is now added.
Invisible Lighthouse dropped is moved from OA to Other Forms in index.
Directional Radiobeacon segment has undergone several changes that place it in alignment with sources.
Rotational Pattern Radiobeacon in text but index substituted Rotating; index now changed to Rotational.
Aero Radio Beacon should be Aero Radiobeacon in index.
Marker Radiobeacon seemingly has one form in which Radiobeacon is one word. Radio Compass Signal should end in Station rather than Signal.
Continuous Carrier Radio Beacon in text; index now reflects that formulation.
Dectra was omitted from text though a portion of entry retained. The title is now restored.
Electronic Position Indicator. The acronym of EPI is as added as a supplement.
Radar Corner Reflector in text was altered to Racon Corner Reflector in the index. Index now includes Radar Corner Reflector.
Derveaux included in text but omitted in index; it is now added to index.
Racon Response Enhancer should be Racon Responder Enhancer and now corrected.
Radar Responder Beacon in text. Radar now added to Responder Beacon in index.
Navsat in index contrasts with a more complex formulation in text.
Sound/Radio Aids Forms now replaced by Radio/Sound Aids.
Sono-Radio Buoy in text now added to index.
Miscellaneous Forms in text replaces Miscellaneous in index.
Talking Beacon in text and now also in index.

Differences Between Parts C/D & H, and the Database:

Parts C/D included a single classification while Part H had both main and variant forms. Two terms in the Classifications were not added to the Database but have been
added to this study. Radiobeacons were a main unit for C/D and contained six specific forms. H had a single main term and five variant forms. Satellite forms are limited in the Classifications. Overarching terms for the Classifications are markedly different from those of the Database. C/D uses Electronic Transportation Markings; possibly coined by the compiler. H uses Electronic Aids and Marine Electronic Aids. Both tend to the vague and are not established terms. A sub-arching term in H, Ground- & Spaced-Based Hyperbolic Systems is likely a “home-grown” term as well. Part B includes Short Range aids and Long Range Aids under the term Electronic Aids to Navigation, Those terms appear in the literature including references to visual marine aids as well as materials on electronic aids. The terms are therefore included elsewhere.

CHAPTER TWO

TRAFFIC CONTROL DEVICES

2A Light & Sound Signals

2A1 Traffic Control Signals

a) Overarching Terms & General Note

General Note
Traffic Light Signals
Traffic Signals
Signals
Road Signals
Highway Traffic Signals
Signals for Vehicular Traffic
Road Signalling
Traffic Lights/Traffic-Lights*
Light Signals
Lighted Traffic Signals*
Street Traffic Signals
Lights*
Electric Traffic Lights*
Signal Lights*

b) Specific Entries

General Note
Traffic Control Signals
Street Traffic Signals
Signals for Vehicular Traffic [two entries: see also OA]

c) Traffic Signal Operation

General Note
Automatic Signal
Fixed-Time Signal/Fixed Time Signal
Pretimed Signal
Traffic-Actuated Signal
Traffic-Adjusted Signal
Vehicle-Actuated Signal
2A2 Pedestrian Signals
   Accessible Pedestrian Signals*
   Pedestrian Signals
   Pedestrian Crossing Signals*
   Signals for Pedestrians
   Pedestrian-Operated Signals
   Pedestrian Traffic Lights*
2A3 Traffic Signals-Other Types
   Cyclist Signals*
   Freeway Entrance Ramp Control Signals*/Traffic Signals for
      Freeway Entrance Ramps/Traffic Signals at Freeway Entrance
   Ramp Control Signals*
   Emergency Signals*/Emergency-Traffic Signals/Emergency-Vehicle
   Traffic Control Signal*/Traffic Control Signals for Emergency
   Vehicles
   Ferry-Boat Landing Signals*
   Flash Lights*
   Low-Flying Aircraft Signals*
   Traffic Signals for One-Lane, Two-Way Facilities
   Traffic Lights for Special Vehicles*
   Lane-Use Control Signals/Lane Control Signals/Lane Direction Signals/
      Lane Direction Control Signals
   Movable Bridges Signals/Drawbridge Signals/Traffic Signals at
      Drawbridges/Traffic Control Signals for Movable Bridges/Swing
      Bridges
   Portable Traffic Control Signals*
   Robots*
   School Area Traffic Signals*
   Temporary Traffic Control Signals*
   Vibrotactile Pedestrian Device*
2A4 Flashing Beacons
   a) Overarching Terms
      Flashing Beacons
      Beacons
      Traffic Beacons
   b) Specific Entries
      Flashing Yellow Beacon/Flashing Red & Yellow Beacon
      Flashing Warning Beacon*
      Hazard Identification Beacon
      Intersection Control Beacon
      Speed Limit Sign Beacon
      Stop Sign Beacon/Stop Beacon*
      Warning Beacon
   c) Lighting Devices
      General Note
      Lighting Devices
      Floodlights
      Hazard Identification Beacon
      Steady Burning Electric Lamps/Steady-Burning Electric Lamps*/
      Steady-Burn Electric Lamps*
      Warning Lights
      Type A, Low Intensity Flashing Warning Lights
      Type B, High Intensity Flashing Warning Lights
      Type C, Steady-Burning Lights/Type C, Steady-Burn
      Warning Lights*
      Type D, 360-degree Steady Burn Warning Lights*
      Special Lighting Units
      Advance Warning Arrow Panels, Types A, B, C/Arrow Panels*
      In-Roadway Lights* [Review]
2A5 Grade Crossing/Level Crossing Signals
   Active Grade Crossing Warning System*
   Active Traffic Control System*/Active Traffic Control Devices for
   Highway-Rail Grade Crossings*
   Autoflag*
   Automatic Flagman*
   Flashing Light Signals/Flashing-Light Signals
   Flashing-Light Signals:
      Post Mounted*
      Overhead Structures*
   Highway Grade Crossing Warning Devices*
No Right [Left] Turn Signals
Railroad Grade-Crossing Signal
Train Approach Signals/Train-Approach Signal
Traffic Control Signals at or Near Highway-Rail Grade Crossing*/Traffic Control Signals Near Highway-Rail Grade Crossing*
Traffic Lights at Level Railroad Crossings*
Wig Wag Signal
2A6 Sound Traffic Signals*
   Movable Bridge Signals* [Visual/Sound]
   Audible Pedestrian Signals*
   Grade/Level Crossing Signals* [Visual/Sound]
   Road Sound Signals*

Notes


Note: The online and contributor-generated encyclopedia Wikipedia offers an extensive introduction to what they term Traffic Lights. Regretably, the author(s) are not given. Traffic Lights, an infrequent term in official publications and the literature, is a prominent term on the internet. That is reflected in Wikipedia.

Lights
Electric Traffic Lights
Signal Lights
Pedestrian Traffic Lights
Traffic Lights for Special Vehicles
Traffic Lights at Level Railroad Crossings
Traffic Lights

CASATC 1950

Flash Lights

Robots

Kuemmel 2000

Audible Pedestrian Signal

Lay 1990

Pedestrian Crossing Signals

Solomon 2001

Automatic Flagmen


Accessible Pedestrian Signals, 2000, 2003
Active Grade Crossing Warning System, 2000, 2003
Active Traffic Control Devices for Highway-Rail Grade Crossings, 2000, 2003
Active Traffic Control Systems, 2000, 2003
Arrow Panels, 2000, 2003
Freeway Entrance Ramp Control Signals, 2000, 2003
Portable Traffic Control Signals, 1988
School Area Traffic Signals, 1988
Steady-Burn Electric Lamp, 2000, 2003
Stop Beacon, 2000, 2003
Temporary Traffic Control Signal, 2000, 2003
Traffic Control Signals at or Near Highway-Rail Grade Crossing, 2000, 2003
Traffic Control Signals Near Highway-Rail Grade Crossing, 1988
Warning Lights, Type D, 360-degree Steady-Burn Warning Lights, 2000, 2003

New Terms: From Parts E & H
Cyclist Signals, E and H
Emergency Signals, E and H
Ferry-Boat Landing Signals, E
Flashing Warning Beacon, E
In-Roadway Lights, E
Low-Flying Aircraft Signals, E
Miscellaneous Signals, E
Ramp Control Signals, E
Steady-Burning Electric Lamps, E [Database & MUTCD 1988 lack hyphen]

New Terms From Part J
Autoflag
Highway Grade Crossing Warning Devices
Lighted Traffic Signals
Lighted Wig-Wag
Road Sound Signals

Differences Between Index and Text of Database:

The chapter heading in the Database was that of Traffic Signals. The heading is now changed to Light and Sound Devices. There are two reasons for the change: some signals have a sound dimension, and some lighted devices are in a fixed mode of operation rather than in a signal mode. There is also a “Vibrotactile pedestrian device” which is not represented in the title.

The Sound Traffic Signals category is absent in the Database but it is now added. Railroad-Highway Grade-Crossing Signal in Database index appears as Railroad-Grade Crossing Signal in Database text. Grade/Level Crossing Signal added by compiler in order to encompass signal lights whether under grade or level headings.

Some terms in the Index are listed line-by-line while a batching arrangement is followed in the Text. These terms include Pedestrian Signals, and Traffic Signals-Other Forms.

Traffic Signals for One-Lane/Two-Way Facilities in the Index contrasts with similar wording in the Text except for a comma in the Text. The Index now displays that punctuation.

Differences Between Parts B, E & H, and the Database:

The term Warning Beacon was employed by US FHWA beginning in 1997. It replaced Hazard Identification Beacon. The latter term is also included in the Database though omitted by Parts E and H.

[Level (Railway) Crossing Signals employed in Parts E and H rather than Grade Crossing/Level Crossing Signal or Level (Grade) Crossing Signals. The source of the Parts E and H formulation is unclear.

Part B includes an older classification that is occasionally different from with newer classifications and the Database. Differences include:
Traffic Beacon is used in place of Flashing Beacons (This also true of Part H, 2nd edition though not in Part E, 2nd edition).
Lane-Control Signals is used in place of Lane-Use Control Signals
Emergency Traffic Signals rather than Emergency Signals
One-Lane/Two Way Signals are included while the Database has a variant form; Parts E & H lack the term.

Part E, 2nd edition, includes Ramp-Control Signals, and Miscellaneous Signals. Neither are in the Database either under those formulations or alternate
Part H omits the hyphen from Lane-Use Control Signal. The 2nd edition (2003) adds Movable Bridge Signals, Emergency Signals, and Lighting Devices. The Database includes those terms though the first two are in alternate forms.

Audible Pedestrian Signals first appears in Part J predating Part III (the Database), Part E (1st ed), and Part H (1st ed). Part J includes Draw Bridge Signals with Movable Signals as a subordinate term. The Database has an alternate version though Movable Signals is primary. Moveable employed instead of Movable in some of the classifications. This study includes Movable only.

2B. Warning Signs
2B1. Categories & Overarching Terms
   a) Categories
      Overarching Terms
      Roadway Alignment Signs
      Roadway Conditions Signs
      Intersection Signs
      Intermittent Moving Hazards Signs
      Construction & Maintenance Signs
      Non-Vehicular-Related Hazards Signs*
      Roadway-Related Hazards Signs*
      Temporary Traffic Control Signs*
      Traffic-Related Hazards Signs*
      Other Dangers Signs
      Other Hazards Signs
   b) Overarching Terms
      Introductory Note
      Advance Warning Signs
      Caution Signs
      Danger Signs
      Danger Warning Signs
      Giving Warning of Danger Signs
      Warning Signs
      Warning Signposts

2B2. Roadway Alignment Signs
   a) Introductory Note & Overarching Terms
      Curves
      Dangerous Curves
      Dangerous Bends/Bends
      Horizontal Alignment Changes/Changes in Horizontal Alignments*
      Roadway Alignments
      Turns
   b) Specific Signs
Bad Corners
Bend, L, R
Double Bend, L, R/Double Bend to R, L
Left Bend/Right Bend
Single Bend to the R, L
Dangerous Corner
Chevron/Chevron Alignment
Combined Horizontal Alignment/Advisory Speed Sign*
Combined Horizontal Alignment/Intersection Sign*
Curves, L, R/Single Curve, L, R
Curve Speed Sign*
Hairpin Curve Sign*
Limited Sight Distance
Sharp Curve
270 degree Curve Sign*
Reverse Curve, L, R
Reverse Turn, L, R
Sharp Turn/Bend
Turn, L, R/Single Turn, L, R
Winding Road/Winding Road to L, R/Right Winding Road/Left
Winding Road
Large Arrow Sign/Directional Arrow/Bi-Directional Arrow/One-
Direction Large Arrow Sign*/Two-Direction Large Arrow Sign*
Dangerous Sharp Turning to L, R
Dangerous Bend Winding to L, R
Truck Rollover*

2B3 Roadway Conditions Signs
a) Introductory Note & Overall Terms
Roadway Conditions
Roadway & Environment*
Roadway Surface Conditions
Roadway Surface Physical Conditions
Special Roadway Features
b) Specific Terms
Added Lane*

Bike Hill
Hill/Hill_In_
Hill Blocks View Sign*
Dangerous Hill
Dangerous Descent
Dangerous Ascent
Dangerous Steep Descent to R, L
Steep Ascent
Bump/Dip
Cross Drain or Dip
Dead End/Dead End Plaque/No Outlet/No Outlet Plaque*/Divided
Highway Ahead/Divided Highway/Divided Highway Ends/
 Divided Highway (Road) Ends Sign*
Rough Road
Speed Hump Sign*
Uneven Road
Gutter
Clearance
% Grade_Miles
Next_Miles
_Miles
Bikeway Narrows
Bicycle Surface Condition Warning Sign*
Carriageway Narrows
Lane Reduction Transition
Limited Width Sign
Narrow Clearance
Narrow Road
Narrow Structure
Road Narrows
Draw Bridge/Hump Bridge/Narrow Bridge
Bridge Ices Before Road*
One Lane Bridge
Opening Bridge
Overhead Bridge
One-Direction Large Arrow*
Two-Direction Large Arrow*
Supplemental Arrow Plaques*
Supplemental Plaques*
Pavement Drop-Off
Pavement Ends
Pavement Narrows
Pavement-Width Transition
Dangerous Shoulder
Loose Gravel
Low Shoulder*
Shoulder*
Shoulder Drop-Off Sign*
Soft Shoulder
Low Clearance
Lane Ends Sign*
Lane End Merges L, R
Lane Reduction Sign*
Lane Reduction Transition Sign
L, R Lane Ends
Uneven Lanes*
Roads Leads Onto Quay or River Bank Sign
Runway Truck Ramp/Runway Truck Ramp_Miles
Truck Escape Ramp Sign*
Sand/Gravel/Paved Supplemental Plates

2B4 Intersection Signs
a) Introductory Note & General Terms
b) Specific Signs
Cross Road/Cross-Road/Crossroad
Cross Street
Cross Traffic Does Not Stop Plaque*
Crossing Sign*
Dangerous Fork
Dangerous T-Junction
Delta

2B5 Intermittent Moving Hazards Signs
Advance Crossing
Beware of Animals
Bicycle Crossing/Bicycle Crossing Warning/Cycling Entering or Crossing
Bicycle Surface Condition Warning*
Cattle or Other Animal Crossing
Cattle Crossing
Children
Congestion
Cross Walks
Deer Crossing
Fallen Rock/Falling Rock or Landslides

Dangerous Fork
Dangerous T-Junction
Delta
Interaction of Vehicles with Other Moving Objects*
Intersection Warning Sign*
Oncoming Extended Green*
Oncoming Traffic Has Extended Green*/Oncoming Traffic May Have Extended Green
Road in Which Another Road Ends at a Junction
Road Intersection
Road Junction/Road Junctions
Side Road
Successive Tees
T Sign/T Intersection/T-Symbol Sign*/T-Intersection Sign*
Traffic Circle/Roundabout
Y Sign/Y Intersection/Y-Symbol Sign*/Y-Intersection Symbol Sign*
Merge/Merging Traffic Sign
Signal Ahead/Signals Ahead
Stop Sign Ahead/Stop Ahead
Warning Signs at Approaches to Intersections*
Yield Ahead
Double Arrow

94

95
Farm Machinery
Golf Cart Sign
Hazardous Conditions
High Water
Horse-Drawn Vehicles
Moose Crossing
Pedestrian Crossing Ahead/Pedestrian Crossing/
Pedestrian Crosswalk
Playground Ahead/Playground
Range Cattle
School/School Ahead/School Crossing/School Zone/
School Crosswalk
School Crosswalk Warning Signs
School Bus Stop Ahead
School Speed Limits
School Advance Warning Sign
School Warning Sign
Slippery When Wet/Slippery Road
Slippery When Wet/Bicycle Path
Snowmobile
Truck Crossing/Truck Entrance, R, L
Crossing No Gates/Gates or Level Crossing Barrier/
Level Crossing with Barrier/Level Crossing Unguarded/Level
Crossing/Guarded Level-Crossing/Level Crossing Guarded by
Gates/Level Crossing Warning Cross/Level Crossing Stop Sign/
Unguarded Level Crossing/Unguarded Level-Crossing/
Level-Crossing with Gates/Level-Crossing Without Gates/
Railway Cross-Buck/Unprotected Railroad-Crossing/
Protected Railroad Crossing
Railroad Level/Grade Crossing
Level/Grade Signs
Level/Grade Crossing Sign
Level (Railway) Crossing Sign
Low Ground Clearance Highway-Rail Grade Crossing
No Train Horn Sign
Railway Advance Warning Sign
Railroad Crossing Signs
Storage Space Sign
Train May Exceed (km/h or miles)
XX Feet/Meters Sign [4]
XX Feet/Meters Between Track & Highway Sign
XX Feet/Meters Between Highway & Tracks Behind You
2B6 Construction & Maintenance Signs
Road Repairs Ahead Signs
Road Work/Road Works Signs
Road Work Ahead Signs
Road Construction ... Feet/Detour Ahead/Road Street Closed ... Feet/
One Lane Road ... Feet/Men Working/Fresh Oil/Road Machinery
Ahead/Shoulder Work Ahead/Survey Crew Ahead/Flagman ... 
Feet/Flagger/Left [Right] Lane Closed/Single Lane .../
Blasting Zone ... Feet/End Blasting Zone/Turn Off Two-Way Radio/
Pilot Car Follow Me/End Construction/Road Diversion/Detour/
Flagman/Survey Crew/Truck Entrance Signs
Advance Flagger Sign
Worker Sign/Workers Sign
Advance Road Construction Sign
Advance Detour Sign
Advance Road Closed Sign
Advance One Lane Ahead Sign
Advance Lane Closed Sign
Advance Warning Sign
Construction Approach Warning Signs
Signs for Blasting Areas Sign
Temporary Traffic Control Devices/Temporary Traffic Control
Zone Devices
Worker Sign/Workers Sign
2B7 Other Hazards Signs
a) General or Alternate Danger Signs
Other Dangers
General Danger Sign
Alternative Sign
Dangers Other Than Those Indicated by Signs 1-6 Bis

b) Specific Signs
- Additional Panels
- Advance Traffic Control Sign*
- Advisory Exit Speed
- Airfield/Airplane
- Be Prepared to Stop Sign*
- Bridle Path
- Cross-Wind
- Crossing Sign*
- Emergency Signal Ahead Sign*
- Emergency Vehicle Sign*
- Exit
- Exit Speed Sign*
- Factory Entrance
- Hazardous Conditions
- Motorized Traffic Sign*
- No Passing Zone
- No Traffic Sign*
- Notice Boards
- Low Shoulder
- Peligro
- Ramp Speed Sign*
- Road Diversion
- Road Leads Onto Quay or River Bank*
- Rough Road
- Rules of Road
- Snowflakes
- Speed Reduction Sign*
- Temporary Two-Way Ahead
- Trucks Use Lower Gear/Use Lower Gear/Use Second Gear/Use Low
  Gear*
- Two-Way Traffic Sign*

Uneven Track
c) Supplemental Plates/Plaques
- Advance Street Name Plaque*
- Advisory Speed Plate/Advisory Speed Plaque*
- Diagonal Arrow Plaque*
- Diagonal Lanes Plaque*
- Distance Ahead Plaque*
- Distance Plaque*
- High-Occupancy Vehicle Plaque*
- Hill-Related Plaque*
- Next Distance Plaque*
- Photo Enforced Plaque*
- Share the Road Plaque*
- Traffic Circle Plaque*

Notes
Warning Signs for the classifications in Part E and Part H are influenced by
UN 1968. Those classifications leaned toward official formulations and, hence,
UN forms are listed but a wide variety of US forms are not so listed. This is less
the case with Traffic Signals and Traffic Markings where US forms are more
substantial than those of UN 1968. Categories for Database and Part E and Part H
bear substantial resemblance. The 2nd ed. of Part B (1992) contains a variety of
classifications including one of messages that provides a comprehensive of US
sign forms.

US MUTCD editions have increasingly added coverage of special categories
of TCD forms. The general coverage must thereby be augmented by bicycle,
school, construction and maintenance sections. Temporary Traffic Control
replaces an older term, Construction & Maintenance [MUTCD 1961 has “Traffic
Controls for Highway Construction & Maintenance Operations”. MUTCD 1971
and 1978 add “Street and ..."]. MUTCD 1988 had expanded the older term to
Traffic Control for Streets & Highways Construction & Maintenance, Utility &
Emergency Operations. MUTCD 2000 and 2003 have both expanded and
simplified the overarching term. There are obvious overlaps between general and
specialized sections. However, some new terms are often present in the specialized segments.

The older term of Plate has been superseded by Plaque. The meaning is unchanged. MUTCD 1978 and 1988 employed both terms. Plaques/Plates have grown in types and numbers in recent years. As a result MUTCD 2000 and 2003 have added a plaque segment to their schema of warning signs (Roadway Related/Traffic Related/Supplemental Plaques). Plaques have therefore been given a separate segment in this classification.

A new segment known as Supplemental Warning Devices has been added to this coverage. It is not in the Database. The terms have not been added to the index/classification. Some terms are more in the form of descriptive statements and require the context of Supplemental Warning Devices for coherence. Some of the Devices are partially lighted and require alternative treatment. The materials are in a draft form and require additional work.

New Terms:

MUTCD 2000/2003

Added Lane Sign
Advance Arrow Plaque
Advance Arrow 2003
Advance Street Name Plaque
Advance Traffic Control Signs [category]
Advisory Speed Plaque
Be Prepared to Stop Sign 2003
Bicycle Surface Condition Warning Sign
Bridge Ices Before Road Sign 2003
Combined Horizontal Alignment/Advanced Speed Sign
Combined Horizontal Alignment/Intersection Sign
Cross Traffic Does Not Stop Plaque 2003
Curve Speed Sign

Dead End Plaque [1988 edition employs both plate and plaque terms]
Diagonal Arrow Plaque 2003
Diagonal Lanes Plaque 2003
Distance Ahead Plaque 2000
Distance Plaques 2000
Emergency Signal Ahead Sign
Emergency Vehicle Sign
Golf Cart Sign 2003
High-Occupancy Vehicle Plaque 2003
Hill Blocks View Sign 2003
Hill-Related Plaques
Horse-Drawn Vehicle Signs 2003
Intersection Warning Sign [category sign]
Lane Reduction Signs 2000
Lane End Signs 2003
Low Ground Clearance Highway-Rail Grade Crossings
Low Shoulder Sign
Motorized Traffic Sign 2000 [category and individual sign]
Next Distance Plaque
No Outlet Plaque 2000
No Traffic Sign
No Signal Sign
No Train Horn Sign
Oncoming Extended Green Sign 2003
Oncoming Traffic Has Extended Green/Oncoming Traffic May Have Extended Green 2003
One-Direction Large Arrow Sign
Photo Enforced Plaque 2003
Ramp Speed Sign
School Crossing Warning Assembly 2003
School Warning Sign 2000
Share the Road Plaque
Shoulder Sign [category]
Shoulder Drop-Off Sign
Signs for Blasting Areas, 1998
Snowmobile Sign 2003
Speed Hump Sign
Speed Reduction Sign 2003
Storage Space Sign
Supplemental Arrow Plaques
Supplemental Plaques
Temporary Traffic Control Devices/Temporary Traffic Control Zone Devices
Temporary Traffic Control Devices Signs 2003
T-Intersection Sign 2003
Traffic Circle Plaque 2003
Train May Exceed_ (km/h or miles)
Truck Escape Ramp Sign
Truck Rollover Sign 2003
Trucks Use Lower Gear
Two-Direction Large Arrow Sign
270 Degree Curve Sign 2003
Uneven Lanes Sign
Use Low Gear 2003
Workers Sign
XX Feet/meters
XX Feet or Between Track & Highway
XX Feet or Marker Between Highway & Tracks Behind You
Y-Intersection Sign 2003

1988 and older editions of MUTCD

These editions list terms that are not in the Database.

Construction Approach Warning Sign.
Crossing Sign [category]
Divided Highway (Road) Sign
Exit Speed Sign
No Outlet Plaque
T-Symbol Sign
Two-Way Traffic Sign

Worker Sign and Workers Sign. Newer editions include only the latter. Database has only the singular form.
Y-Symbol Sign

Signs for Blasting Area. This overarching term does not appear in newer editions. The term is not in the Database.

Newer editions include the term Advance Warning Signs but the word “Advance” does not appear with the specific sign term. 1971 includes Construction Approach Warning Signs as well as adding Advance to the specific term.

Advance Road Construction Sign
Advance Detour Sign
Advance Road Closed Sign
Advance One Lane Ahead Sign
Advance Lane Closed Sign
Advance Flagger Sign

Jones & Hawkins 1997

Roadway-Related Hazards Signs
Traffic-Related Hazards Signs
Non-Vehicular-Related Hazards Signs

The word “Sign” is listed within the category but not attached to the actual term as is done here. MUTCD 2000 and 2003 include the terms Roadway Related and Traffic Related within their respective schemas but those terms are less complete than those of Jones & Hawkins.

Part E, 1st edition, 1984

Interaction of Vehicles with Other Moving Objects
Roadway & Environment Signs
Warning Signs at Approach to Intersections
Part Iii, 2000

Railroad Crossing Signs

Differences Between Database Index & Text

Bend Forms: Together in text; separated in index
Bend, L, R: Not in text; source unknown; retained in Index until determined.
Turns, L, R & Single Turn, L, R: Together in text; separated in Index. Single not
followed by Turn in Text.
Sharp Turn/Bend: Source of this configuration unknown; retained in Index until
clarified.
Right Winding Road/Left Winding Road: Text only; now added to Index.
Winding Road/Winding Road to L, R: Second form not in text; retained in Index
until term clarified.
Roadway Conditions: Category in text but not an individual term. However, it
is discussed in introductory remarks.
Roadway Surface Conditions/Roadway Surface Physical Conditions: Together
in Text but separately listed in Index.
Hill, Descent, Ascent: Together in Text but separation may be in order because
of differences in terms.
Railway Grade Crossings: Very complex. Some simplification in Index. New
terms may remain in separate listings.
Some terms in Index physically separate yet together in Text. Now together or at
least adjoin one another.
Bridge terms: Together in Text.
Narrow Bridge/Road Narrows: This formulation not in Text; delete entirely.
Narrow Clearance: Configuration not in Text; delete from Index
Narrow Structure & Bridge: Together in Text; adjust Index to that form.
Arrows & Checkerboard: Together in Text; add to Index if source supports that
form.

Low Clearance: Clearance: Delete from Index unless source confirms this form;
not in Text.
Road Leads onto Quay:... In Text; add to Index.
Lane End Signs: Correlate Text and Index; compare to changes in 2000, 2003.
T-Symbol and Y-Symbol Signs: Older term but missing from Database. Add.
Signal Ahead/Signals Ahead: Split in Text; Source review necessary.

Intermittent Moving Hazards: The Database Index added probable moving
hazards from schools, and railway crossings special categories under intermittent
moving hazards. While the text added many of those hazard signs to Other
Hazards. That category partly reflects UN practice which has many signs in Other
Hazards [Note: UN 1968 employs term Other Dangers rather than Other Hazards
as was done in the Database]. A reworking of signs may thereby be needed. In
addition, two pages mislocated in Database and many signs were mistakenly
assigned to Miscellaneous Forms. This is now corrected.

Construction & Maintenance Signs: Complex and differences between Index
and Text. Some reordering and simplification have been carried out.
Miscellaneous Signs: Some Regulatory Signs were inadvertently added to Index;
they are now deleted.
Miscellaneous Signs: C & M Signs listed in Index under that heading but not in
Text. Signs now moved to correct category.

Other Hazards: Miscellaneous: The Database Index includes a variety of signs
that are regulatory and were inadvertently included in the Index. These signs
are not listed in the text: These signs include
Cross Only at X-Walks
Cross on Green Light Only
Do Not Block Intersections
Keep Off Median
Left on Arrow Only
Left Turn Signal
Stop Here on Red
Differences Between Parts E & H and Database:

Part E (2004) views the Railroad Level/Grade Crossing as a separate section while the Database places that material within the Intermittent Moving Hazards segment. Part H (2003) follows the practice of Part E. The classifications are influenced by the UN including the practice of a separate Crossing section.

Part E includes an Other Dangers segment while the Database employs an alternative term: Other Hazards. Part H employs Other Dangers.

Road Alignment/Roadway Condition/Intersection/Intermittent Moving Hazards/Construction & Maintenance are found in both Parts and in the Database. As previously noted, US MUTCD has changed Construction and Maintenance to Temporary Traffic Controls. Construction & Maintenance are the core words for that category but not the full title. See previous paragraph on terminology changes in MUTCD.

Part E (1984) categories are at variance with new categories in several respects: Roadway Alignment and Roadway Conditions Signs are listed under Roadway & Environment Signs, a single category. Intermittent Moving Hazards Signs were placed under Interaction of Vehicles with Other Moving Objects Signs. Construction & Maintenance Signs were designated Temporary Warning Signs for C & M. Intersection Signs were termed Warning Signs at Approaches to Intersections. Level/Grade Signs were known as Railroad Crossing Signs. Other Dangers were divided in Other Dangers I & II.

Part H (1994) is somewhat similar to Part E (1984) though there are differences. Roadwork Signs is employed in lieu of C & M. Level (Railway) Crossing Signs replaced Level/Grade Crossing Signs. The former is indicative of UN and Eastern Hemisphere practice.

Supplemental Warning Devices:

Bowman 1995 has prepared an article on “Supplemental Warning Devices” based on work of Transportation Research Board/National Cooperative Highway Research Program. The TRB/NCIRP work is a synthesis of these devices employed by various agencies. Many of these devices involve flashing lights and signs. They are therefore not entirely an unlighted aid. The following outline summarizes these devices and conditions they are addressing:

Environmental Conditions Category*

Passive Warning Signs: Slippery Roadway Conditions
Watch for Ice on Bridge/Ice Forms on Bridge Before Pavement/Watch for Ice
Active Warning Signs: Slippery Roadway Conditions
Bridge Icy Ahead (Activated device not described)
Ice on Bridge (supplemental plaque: When Flashing); Flashing Lights added.
Graphic Representation of Swerving Car (supplemental plaque: Max Speed 35 MPH); Flashing Lights added.

Limited Visibility Caused by Fog or Smoke
Fog Area Sign with flashing light.
Smoke Sign with Flashing Light.
Variable Message Sign. Red neon tubing employed for words and numbers.
Flashing Lights added to neon tubing.

High Wind Warning Signs
Trailer: Campers Gusty Wind Area Next Miles
Strong Wind Possible Sign with Wind Sock
Heavy Cross Wind Sign with Wind Sock.

*Terms for conditions and devices are from Bowman.

Heavy Vehicles Category
Trucks That Hit This Will Hit Bridge Sign with Device equipped with tubing that will hit truck. Prior Passive Warning Sign: Load Height Gauge Ahead sign.
Vehicle Too High/Stop Sign with Sensing Device

Geometric Features Category
Flashing Beacon on rail activated by loop detectors for excessive speeds
Traffic Coming From Left (Right) When Flashing with Flashing red Beacons.
Supplemental Plate: If Lights Out Sign/No Power/Signal Not Working with fixed white lights.

Be Prepared to Stop with supplemental plate: New Signal or New Stop Sign. Accompanied by Red Flags or Battery-powered Flashing Lights.


Special Crossing Zones
- Yield to Pedestrian Signs with Flashing Beacons
- Duck Crossing Ahead Sign.
- Grazing Area with Supplemental Plate: Liability For Damage Limited by Law.

Rail-Highway Crossings
- Graphic Symbol Sign of Truck Hung-up on Crossing: Roadway-Tracks at different elevations. [Non-standard: symbol not in MUTCD].
- Graphic Symbol of Trolley car with supplemental plate" Trolley Crossing.
- RR Crossing Sign with Supplemental Plate: Watch for Trains with Flashing Red Beacons.

Pavement Conditions Category
- Rumble Strip Sign. Standard message.

Congestion & Stopped Vehicles Category
- Caution Slow Traffic When Flashing with Flashing Red Beacons
- Watch for Stopped Traffic When Flashing with Flashing Red Beacons
- Ramp Back Prepare to Stop Sign

2C Informative Signs

2C1 Categories & Overarching Terms
a) Categories
   - Overarching & Sub-Overarching Terms
   - Destination & Distance
   - Route Markers
   - Signs Giving General Information

b) Overarching Terms
   - General Note
   - Advance Direction & Direction Signs
   - Destination & Distance Signs
   - Directive Signs
   - Guide Signs
   - Indication Signs
   - Information Signs
   - Informational Signs
   - Informative Signs
   - Place & Route Information Signs
   - Road Identification Signs
   - Route Markers/Route Marker Signs
   - Signs Giving Indications Only
   - Signs General Information

2C2 Destination & Distance Signs
- Advance Direction Signs
- Advance Signs/Advance Guide/1-Mile/2-Mile Signs
- Approach Direction Signs
- City Names Signs
- Color-Code Destination Signs*
- Community Interchange Signs
- Confirmatory Signs
- Descriptive Signs
- Destination Signs
- Destination & Direction Signs
- Diagrammatic Signs
Direction Signs
Direction Indicator Signs
Directive Signs
Distance/Confirmation-Distance Signs
Exit Direction Signs
Exit Name Panel
Expressway Directional Signs
Expressway Interchange Signs
Fingerboard Signs
Fingerposts/Direction Posts/Guide Posts/Signposts
Gore Signs
Interchange Sequence Signs
Intersection Signs*/At-Grade Intersection Sign*
Mileage Signs
Next Exit
Next Exit Supplemental
Next (X) Area Signs*/Next X Exit Signs*
Place/Place Names/Place Identification Sign
Preferential Only Lane Sign*
Pull Thru Sign
Street Name Sign/Street Names Plates
Supplemental Advance Guide Signs

2C3 Route Markers

a) Introductory Notes & Overarching Terms
   Road Identification signs
   Route Markers
   Route-Indicators

b) Specialized Route Markers
   Auxiliary Markers
   Bicycle Route Markers
   Business Route Marker/Business Auxiliary Sign*
   Combination Junction Sign
   Confirming or Reassurance Assemblies*
   Confirming Route Markers
   County Route Markers/County Route Sign*

Forenoon Route Markers
Interamerican Highway Route Markers
Interstate Route Marker/Interstate Route Signs*
Markers for Alternate Routes*
Off-Interstate Business Loop Marker/Off-Interstate Business Spur
Off-Interstate Business Sign*
Pan-American Road Route Marker
Provincial Route Markers
Reassurance Route Marker
Road Marker
State Route Marker/State Route Sign*
Trailblazers
Trans-Canada Route Marker
Trunk Route Marker/Truck Auxiliary Sign*
US Route Marker/US Route Sign*

c) Route-Marker Tabs
   General Note
   Advance Turn Arrows Tab/Advance Turn Arrow Auxiliary Sign
   By-Pass Tabs/By-Pass Auxiliary Signs*
   Cardinal Direction Tabs/Cardinal Direction Auxiliary Signs
   North, East, South, West
   Directional Arrow Tabs/Junction Auxiliary Sign*
   Ends/End Auxiliary Sign*
   Junction Tab Signs/Junction Auxiliary Sign*
   To Auxiliary Signs*
   Alternate Tabs
   Temporary Marker Tabs
   Alternate Tabs
   By-Pass Tabs
   Relief Tabs
   Business Tabs
   Detour Tabs
   Detour Signs
   Markers for Alternate Routes/Auxiliary Signs for Alternate Routes*
   Alternate Marker/A lternate Auxiliary Marker
By-Pass Route Marker/By-Pass Auxiliary Sign*
Route Marker Assembly/Route Sign Assembly

2C4 Mileposts
General Note
Direction Stones
Kilometre Stones
Landmarks/Guide
Marks/Markers
Mark Stones
Milliaries*
Mileposts/Mile Posts*/Mile Markers [2 forms]
Milestones
Road Markers
Stone Markers
Reference Location Signs*/Intermediate Reference Location Signs*

2C5 Signs Giving General Information

a) Overarching & Sub-Overarching Terms
Civil Defense Signs*
Directions, Position, or Indication Signs
Emergency Management Signs*
Signs of General Interest/General Interest Signs
Other Signs Providing Useful Information for Drivers of Vehicles/
Signs Giving Notice of Facilities Which May Be Useful to Road
Users
General Information Signs
General Information & Auxiliary Signs
General Motorist Signs
General Services Signs
Indicative Signs
Indication Signs/Signs Giving Indications Only
Information Signs
Information, Facilities or Service Signs
Off-Road Facilities Signs
Recreation & Accomodations

b) Services Signs
Accessibility for the Handicapped Sign*
Accommodations/Hotel/Motel/Lodging
Airport
Ambulance Station Sign*
Breakdown Service/Mechanical Help/Mechanical Services/
Service Station
Carpool Information Sign*
Channel 9 Monitored Sign*
Emergency Dial XX Sign*
Emergency Medical Services Sign*
Emergency Medical Care Sign*
Ferry Boat
First Aid/First-Aid/First Aid Station

Essential Services
Food & Fuel
Routing to Specific Destination
Miscellaneous Information
Parking Area Signs
Recreation & Cultural Signs
Accommodation Services R & C
General Information R & C
Motorist Services R & C
Land R & C
Water R & C
Winter R & C
Recreation Areas Signs
Recreational & Cultural Interest Area
Rest & Information Area
Rest & Scenic Area
Rest & Information Area
Rest Area Signs
Service Signs
Tourist Information & Welcome Center Signs
Tourist-Orientated Directional Signs (TODS)*
Filling Station/Fuel/Gas/Gas Station/Fuel (Diesel)
Food/Restaurant/Refreshment or Cafeteria
Hospital
Litter Container Sign*
National Scenic Byways Sign*
Next Services ... Miles
Pharmacy Sign*
Phone/Telephone
Radio Information Signs*
   Radio-Weather Signs
   Radio-Traffic Information Signs
Recreational Vehicle Sanitary Sign*
Recycling Collection Sign*
Travel Information Call XX Sign*
Trail Marker/Trail Sign*
c) Parking Signs
   Authorized Parking Place/Authorized Parking-Place
   Park & Ride
   Park & Ride Next Right
   Parking
   Parking Area
   Parking Allowed
   Parking w/o Lights
d) Recreation Signs
   Boat Launch Ramp
   Camping
   Camping or Caravan Site
   Caravan Site
   Information Center
   Picnic Site/Picnic Table/Picnic Tables ... Miles
   Rest Area
   Roadside Parking Area ... Miles/Roadside Rest ... Feet
   Scenic Area
   Scenic Overlook
   Tent Camp
   "Tourist Information Center Sign*"
   "Trailer Camp"
   "Travel Information"
   "Trolley Park"
   "Viewpoint"
   "Welcome Center Sign*"
   "Youth Hostel"
   Additional R & C Signs:
   Winter Recreation Area/Marina/Viewing Area/Rest Rooms/Food
   Service/Post Office/Mechanic/Ferry/Swimming/Canoing/
   Motor Boating/Boat Launching Ramp/Sail Boating/Ice Skating/
   Water Sking/Snow Skiing/Fishing/Ranger Station/Amphitheater/
   No Smoking/Picnic Area/Camp Fire
e) Miscellaneous Signs
   Access for Handicapped
   Advance Signs-Exit Motorway
   Advised Itinerary for Heavy Vehicles
   Advisory Speed
   All Trucks Commercial Vehicles Next Right
   Beginning of Built Up Area/End of ...
   Bicycle Route
   Bus Stop
   Bus Stop/Tramway Stop
   County
   Crossover Signs/Advanced Crossover Sign
   Cul-de-Sac
   Do Not Throw Litter
   Emergency & Authorized Vehicles Only
   End of Road for Motor Vehicles
   Escape Lane
   Exit Direction
   General Speed Limit
   Gore
   Information Signs
   Keep Off Wet Paint
New Terms:

2000/2003

Note: The long-enduring term Route Marker has been eliminated by US FHA. The 1988 edition included the term but the 2000 and 2003 editions have replaced the term primarily with the term Auxiliary Signs. The reasoning for this change is not known. Many terms have been altered as a result of the change. These altered terms are presented in a batch format. Route Markers is retained as an overarching term for the study.


County Route Signs/Intersection Signs/State Route Sign/US Route Sign/Off-Interstate Business Route Sign

An even longer enduring term, Mileposts, has also been replaced by MUTCD. The new term is Reference Location Sign. 2003 also adds Intermediate Reference Location Signs while MUTCD 2000 employed Reference Posts for Freeways and Expressways. MUTCD 2003 employs not only Reference Location Signs but also Enhanced Reference Location Signs.
Other Changes Between 1988 and 2000/2003 (older MUTCD editions serve as background sources for this coverage):

Accessibility for the Handicapped Sign
Advance Turn Arrow Auxiliary Signs instead of Advance Turn Arrow
At-Grade Intersection Sign instead of Intersection Signs
By-Pass in By-Pass Auxiliary Sign instead of Bypass in former Bypass Marker
Color-Code Destination Signs
Civil Defense Signs, 1988
Detour Marker and Detour Sign replaced by Temporary Detour & Auxiliary Sign
Directional Arrow Auxiliary Signs instead of Directional Assembly
Emergency Management Signs
General Service Signs
Next X Exit Area Signs instead of Next (X) Exit Signs, 1988
Preferential Only Lane Sign, 2003 only
Specific Services Signs instead of Motorist Service Signing (Specific Services was employed within segment)
To Auxiliary Sign
Tourist Information Center Sign, 1978
Tourist-Orientated Directional Signs displays hyphen in 2000/2003 but not in 1988
Intersection Approach Signs
Interstate Route Signs
Off-Interstate Business Route Sign
Advance Signs for TODS
General Directional Guide Sign for Conventional Roads
Destination Guide Signs
Ambulance Station Sign
Carpool Information Sign
Channel 9 Monitored Sign
Emergency Dial XXX Sign
Emergency Medical Services Sign
Emergency Medical Care Sign
Litter Container Sign
National Scenic Byways Sign
Pharmacy Sign
Radio Information Signs
Radio-Weather Signs
Radio-Traffic Information Signs
Recycling Collection Center Sign
Recreational Vehicle Sanitary Sign
Trail Sign
Travel Information Call 511 Sign
Weigh Station Sign instead of Weight Station Signing
Welcome Center Sign, 1978
Reference Posts

Other Changes Between MUTCD & Database:

Auxiliary Signs For Alternate Routes, 2000
Intersections Signs, 1988; now At-Grade Intersection Sign
Civil Defense/Emergency Management Signs have been moved from Regulatory Signs. They had been included with Regulatory Signs in the Database.

Tabs from Canadian replaced Marker in the Database. It may be less confusing to employ Marker as well as Tab. The value of Marker may not be fully eliminated even in light of MUTCD changes.

Blanchard 1919
Mile Posts
Noble 1946
Milliaries
UK MOT

Buttons
Cats-Eyes

Differences Between Index & Text in Database

Informational Signs: in Text; added to Index
“SOGI”: Signs of General Information should be Signs Giving General Information (SGGI).
Destination & Direction Signs: Distance rather than Direction in Text; Index changed to that term.
Street Name in Text; name added to Index; street spelling also corrected.
Combination Junction Markers: Text has sign; added to Index.
Reassurance Markers: not in Text though Reassurance Route Markers in Text and in Index. Basic term dropped from Index.
Confirming Route Marker: in Text; added to Index.
 Interstate Route Marker: in Text; added to Index.
Route-Identification Signs: not in Text; source unknown.
Note for Route-Marker Tabs: lacks title. General needs to be added to both Text and Index.
Directional Arrows: in Text; add to Index.
General Note in Mileposts: in Text; add to Index.
Mile Posts listed twice in Text: along and with Mile Markers.
Miscellaneous Signs & Service Signs: both require reconfiguration in Text and in Index.
Gas Station/Fuel Diesel: needs to be joined by Filling Station/Fuel/Gas in Index.
Trailer Camp: in text; add to Index.
Road for Motor Vehicle/End of Road Vehicles: in Text; add to Index.
Emergency & Authorized Vehicles Only: in Text; add to Index.
Weigh Stations: add four terms to Index.
Tourist Orientated Directional Signs in Text and alphabetical Index but not Categories Index; it is now added.
Recreational & Cultural Interest Area Signs in Text and alphabetical Index but not Categories Index; it is now added.
A variety of signs in Miscellaneous are together but listed separately in Index.

Differences between Parts E & H, and Database:

Differences in this category are extensive. Parts E and H contain only main classification entries for Informative Signs. That brief coverage creates few points of commonality between Database and the classifications. Two of the four classification categories contain significant errors: Destination and Direction Signs are replaced by an erroneous Distance and Direction Signs. Both Database and classification include “SOGI” signs: Signs of General Information instead of “SGGI” Signs: Signs Giving General Information. The error was noted in Part E, 2nd ed yet the flawed term was not eradicated.

The classification requires a variant entry. It is possible that the more abundant terms of Part E, 1st ed, and Part H, 2nd ed can be the basis of such an entry. Those terms included Advance Direction Signs, Direction Signs, Road Identification Signs, Place Identification Signs, Confirmatory Signs. Two final terms are both awkward in phrasing yet vital: Signs for “Facilities which may be useful for road users” and Signs for “Facilities which may be useful for road users. The older classifications employed UN categories and created a separate Standing and Parking Signs group. Signs Giving General Information in the Database (though under the inaccurate heading) is divided into Services, Parking, Recreation and Miscellaneous segments. The first three could be employed in some manner for a variant classification entry. Miscellaneous needs to be divided into coherent units as much as possible.

Differences between MUTCD editions and Database:

US MUTCD editions display increasing complexities in organization, categories and individual devices. This is especially true with those categories and signs within Signs Giving General Information. In order to improve the coverage
the existing Overarching category has been altered to Overarching and Sub-overarching terms. This altered category lists not only major groups of terms but more restricted sub-groups within the various MUTCD editions. The expanded listings present the category terms as they are given with no attempt at integrating terms into a single category. Coverage of individual sign coverage is also a difficulty: there is an uncertain line between Service signs and Miscellaneous signs. The coverage attempts to separate terms without undue arbitrariness. Significant changes in Route Markers are described below.

## 2D Regulatory Signs

### 2D1 Categories

- **Priority Signs**
- **Prohibitory & Restrictive Signs**
  - Prohibitory & Restrictive of Entry Signs
  - Prohibitory & Restrictive of Turns/U-Turns Signs
  - Prohibitory & Restrictive of Overtaking Signs
- **Speed Limit Signs**
- **Miscellaneous, Single Forms & End of Prohibition or Restriction Signs**
- **Mandatory Signs**
- **Parking & Standing Signs**

### 2D2 Priority Signs Terms

- Give Way/Yield Sign
- Yield Here to Pedestrians Signs*/Unsignalized Pedestrian Crosswalk Signs*/
- In-Street Pedestrian Crossing Signs*
- Stop Sign/Supplemental Plaque: 4-Way*/All-Way*
- Priority Road Sign/End of Priority Sign
- Stop, Children Crossing Sign
- Additional Panels
- Slow-Major Road Ahead Sign
- Halt at Major Road Ahead

### 2D3 Prohibitory & Restrictive Signs Terms

#### a) Prohibitory & Restrictive of Entry Signs

1) One-Way & Both Direction Signs
   - No Entry Sign
   - Do Not Enter Sign
   - Direction Prohibited Sign
   - Closed to All Vehicles in Both Directions/Closed to All Vehicles Signs
   - Wrong Way Sign*

2) Categories of Exclusion Signs
   - No Entry for any Power Driven Vehicle Except Two-Wheeled Motor Cycles Without Side Car Sign/
No Entry Motor Cycles/No Entry Cycles/No Entry Mopeds/
No Entry Goods Vehicles/No Entry Any Power Driven Vehicle
Drawing a Trailer Other Than A Semi-Trailer or a Single Axle
Trailer/No Entry for Pedestrians/No Entry for Animal-Drawn
Vehicles/No Entry for Handcarts/No Entry for Power Driven
Agricultural Vehicles/No Entry for Vehicles Carrying
Dangerous Goods for Which Special Sign Plating is Prescribed
No Entry for Goods-Carrying Vehicles/No Entry for Motor
Vehicles/No Entry for Bicycles
Motor Traffic Prohibited/Motor Lorries Prohibited/Motorcycling
Prohibited/Cycling Prohibited/Riding [Horses] Prohibited
No Trucks/No Passenger Cars/No Animal-Drawn Carts/No
Bicycles/No Farm Machinery/
No Motor Vehicles/No Trucks/Trucks Excluded/
Commercial Vehicles Excluded/Pedestrian Excluded/
Commercial Vehicles with Lugs Prohibited/Pedestrians,
Bicycles, Motor Driven Cycles Prohibited/Pedestrians &
Bicycles Prohibited/No Bicycles/Cycling Prohibited/
Bikes, Trucks, Motor Cycles Prohibited
Play Street: Prohibited All Vehicles_To_Unless Calling
At Premises in the Street
Selective Exclusion Signs*
3) Vehicular Exclusion: Weight, Height, & Length Signs
No Entry for Vehicles Having An Over-All Width
Exceeding ... Metres (...Feet) Sign/No Entry for Vehicles
Having an Height Exceeding ... Metres (...Feet) Sign/No
Entry for Vehicles Exceeding ... Tons Laden Weight Sign/
No Entry for Vehicles ... Tons on One Axle Sign/No Entry
for Vehicles or Combination of Vehicles Exceeding ... Metres
(... Feet) in Length Sign
Weight Limit Sign (LN 1931 & 1939) Maximum Width of
Vehicles Signs/Weight Height of Vehicles (1939) Signs/
No Entry for Vehicles Having an Axle Weight Exceeding
... Tons (UN 1949)/Axle Weight Limit ... Tons/Maximum Load
Per Axle Weight Limit ... Tons Signs/Axle Weight ... Tons

Sign/No Trucks Over ... Lbs Empty Weight Sign/Weight
Limits ... Tons Per Axle ... Tons Gross Sign
Maximum Load Sign/Maximum Height Sign/Maximum Width
Sign/Maximum Load Per Axle Sign
4) Miscellaneous & Single Category Signs
Driving of Vehicles Less Than ... Metres (... Yard)
Apart Prohibited Sign
b) Prohibitory & Restrictive of Turns & U-Turns (About-Turns) Signs
No Left Turn/No Right Turn/Turning to the Left Prohibited/
Turning to the Right Prohibited/Turn Left (R)/No Turn on
Right/Right Turn on Red After Stop/No Right Turn on Red Traffic
Signal/No U-Turn Signals/No About-Turns (U-Turns)/No Turns
Turn Prohibition Signs*
Do Not Block Crossroads
c) Prohibitive & Restrictive of Overtaking (Passing) Signs
Overtaking Prohibited Sign/Overtaking By Goods Vehicle
Prohibited Sign
Do Not Pass Sign
No Overtaking Sign
Stopping Prohibited Sign
d) Prohibitive & Restrictive Signs: Speed Limits
Maximum Speed Limited to he Figure Indicated Sign/Maximum
Speed Zone Sign/Speed-Limit Sign/Speed Limit Sign/Speed
Limit 30 MPH/30 MPH Speed Limit Signs/Truck Speed
Limit Sign/Night Speed Limit Sign/Minimum Speed Limit
Sign/Truck Maximum Sign/Speed Zone Ahead/Reduced Speed
Ahead/Reduced & Speed MPH/Speed Limit _ & Minimum Speed
Limit Sign
e) Miscellaneous, Single Forms, & End of Prohibitive or Restrictive Signs
Additional Panels
Dangerous Goods Prohibited
Fines Higher Plaque*
Inspection
Passing Without Stopping Prohibited
Stop (Customs) Sign/Customs Sign/Stop Near Customs
Slow Moving Traffic Lane Signs*
Slower Traffic Keep to Right/Slower Traffic Use Right Lane
Road Closed/Road Closed_Miles Ahead-Local Traffic Only/
Road-Closed/Road Closed to Thru Traffic
Slower Traffic Use Right Lane/Slower Traffic Keep to Right
Travelpath Restriction Sign

2D5 Standing & Parking Signs
Parking Prohibited/Parking Prohibited Zone Sign/Standing & Parking
Prohibited Sign/Alternate Parking Sign/Limited Duration Parking/
Parking Zone/Parking Signs
Handicapped Parking Sign
Limited Direction Parking Zone Exit Sign
Restricted Stopping or Waiting Sign
Waiting on Alternate Sides Sign
Parking Sign
No Parking/Restricted Parking/No Parking & No Stopping
No Parking/No Waiting/Parking Signs/Prohibition of Parking
Waiting Prohibited/Stopping Prohibited Signs
Parking Prohibited Zone/Parking Prohibited at Certain Times Zone
Sign/Parking Zone/End of Parking Prohibited Zone Sign/End of
Parking Zone.
No Parking Sign/No Parking to __/No Parking Except Sundays &
Holidays Signs/No Stopping or Standing Sign/One Hour Parking
Sign/No Parking Loading Zone/No Stopping/No Standing Anytime
Sign/No Parking Bus Stop Sign
No Parking on Pavement Sign/No Stopping on Pavement Sign/No
Parking Except on Shoulder Sign/No Parking Sign/Emergency
Parking Sign*/Emergency Stopping Sign/Emergency Restriction
Sign*/Emergency Parking Only Signs/No Stopping Except on
Shoulder Sign
No Waiting This Side Today Sign/Waiting Limited to __ In Any Hour
Signs
No Parking Signs/Parking Signs
No Parking/Bike Lane Sign
Multiple Parking Control Sign

2D6 Pedestrian Crossing Signs
Cross Only at Cross Walks Signs
In-Street Pedestrian Crossing Signs*
No Pedestrian Crossing Signs
Pedestrian Crossing Signs
Pedestrian Crosswalk/Playground Crossing Sign/School Crossing Signs
Use Ped Signals Sign
Yield to Peds Sign
Use Cross Walk
Cross on Green Light Only Sign/Cross on Walk Signal Only Sign
Push Button for Green Light Sign/Push Button for Walk Signal Sign

2D7 Miscellaneous Regulatory Signs
Hazardous Cargo Signs*
Hazardous Material Signs*
No Hitchhiking Signs
Photo Enforce Signs*
Traffic Laws Photo Enforced Signs*

2D8 Specialized Regulatory Signs: Temporary Traffic Control/Railroad
Crossing/Schools/Bicycles
Begin Right Turn Lane Sign  
Bicycle Lane Sign*  
Bicycle Regulatory Signs*  
Do Not Stop on Track Signs*  
Local Traffic Only Signs*  
No Motor Vehicles Sign  
No Parking Bicycle Lane Sign*/Ne Parking Bike Lane Sign  
No Right (Left) Turn Across Tracks Sign*  
Parking Limits Signs*  
Pedestrian Crossing Signs  
Road (Street) Closed Signs*/Road Closed Sign  
Shared-Use Path Restriction Sign*  
Sidewalk Closed Sign*  
Speed Limit Signs  
Stay in Lane Sign*  
Stop Here on Red*  
Tracks Out of Service Signs*  
Weight Limit Signs (3)*

Notes

New Terms in MUTCD

Advance Intersection Movement Lane Control Sign, 2000, 2003  
Bicycle Lane Sign, 2003  
Bicycle Regulatory Signs, 2000  
Center Lane-Left Turn Only, 2003  
Cross Only at Cross Walks, 2003  
Do Not Stop on Track Signs, 2003  
Emergency Parking Sign, 1971  
Emergency Restriction Sign, 2000, 2003  
Fines Higher Plaque, 2003  
Hazardous Cargo Sign, 1988  
Hazardous Material Signs, 2003  
In-Street Pedestrian Crossing Signs, 2000  
Intersection Lane Control Signs, 2000  
Keep Right Sign  
Mandatory Movement Lane Control Signs, 2000  
No Parking Bicycle Lane Sign, 2000  
One Way Sign  
Optional Movement Lane Control Sign, 2000  
Parking Prohibition Signs in Rural Districts, 1971  
Parking Signs in Rural Districts, 1961  
Parking, Standing, & Stopping Signs, 2000  
Photo Enhanced Signs, 2003  
Plaques: Left Lane; HOV+2; Taxi Lane; Center Lane; Right Lane; Bus Lane;  
Left 2 Lanes, 2000, 2003  
Preferential Only Lane Sign, 2003  
Preferential Only Lane For High-Occupancy Vehicles (HOV) Signs, 2003  
Reversible Lane Control Sign, 2000  
Right (Left) Lane Must Turn Right (Left) Sign, 2003  
Road (Street) Closed Sign, 2003  
Selective Exclusion Signs  
Shared-Use Path Restriction Sign, 2000  
Signs for Uphill Traffic Lanes, 1988  
Slow Moving Traffic Lanes, 2000  
Stay in Lane Sign, 2003  
Stop Here on Red Sign, 2003  
Supplemental Plaques: 4-Way; All Way, 2000/Supplementary Plates, 1971  
To Oncoming Traffic, 2003  
Tracks Out of Service, 2003  
Traffic Laws Photo Enhanced Signs  
Traffic Prohibition Signs  
Uphill Traffic Lanes Signs, 1961  
Unsignalized Pedestrian Crosswalk Signs, 2003  
U-Turn Prohibition Sign, 1961  
Urban Parking & Stopping Signs, 1988  
Wrong Way Signs, 1971
Yield Here to Pedestrian Signs, 2003

A major term for UN 1968 in Regulatory Signs is that of Prohibitory & Restrictive Signs. Parts E, H, Iii contain seriously malformed versions of that term. Frequently Prohibitive has replaced Prohibitory and on occasion a second form has been substituted: Prohibition. An effort has been made to conform to the correct form in this study. It should be noted that Prohibition may correctly refer to specific signs on occasion.

Several signs, categories of signs or alternative forms of signs have been omitted in the Database. These are added in this study. When these forms are from MUTCD the year of the relevant edition has been included. One-Way Signs, a long-enduring form, is included in a category sign but the actual sign was omitted. Wrong Way signs were entirely omitted but now added. They should be in Informative Signs. This change has been made in this study. Selective Exclusion Signs, a long-enduring MUTCD sign, was omitted from the Database. Supplemental Plaques for Stop Signs were termed Supplementary Plates in older MUTCD editions. Emergency Parking Sign was also omitted from Database. It is from MUTCD 1971 edition.

Civil Defense/Emergency Management signs were placed in Regulatory Signs in the Database.

Differences Between Index & Text of Database By Category

Prohibitory & Restrictive Signs

Note in Text: no title. Add title to Text, Index
Long batching entries not always clear
Formulation of terms simplified in Index with less batching of terms in Index
Riding [Horses] Prohibited Sign: Prohibited lacking in Text; now added.
No Entry .... Height Sign; entry not complete in Text but now corrected.
Weight signs; duplicated signs in Text removed; one unclear entry; formulation simplified in index

Turn Signs: Index more batched than Text; simplified formulation needed.
End of speed limit entries require reformulation.

Mandatory Signs

Traffic-Circle; in Text but not in Index. Added to Index.
Keep Right (L) in Text; now added to Index.
Two Way Left Turn Only/Center Lane-Left Turn Only; in Text. now added to Index

Standing & Parking Signs

The order of these signs in the Index was at odds with that of the Text. This study has a corrected listing of these signs.

Parking Prohibition Zone in Index should be Prohibited; now corrected.
Standing & Parking Prohibited Signs: Prohibited omitted in Index; now corrected.
Limited Direction Sign in Text should be Limited Duration Sign.
No Stopping Except on Shoulder in Text and now added to Index.
No Parking--Bike Lane: two lines on sign plate; punctuation for Text and Index an uncertain matter.
Rural Parking and accompanying terms: w/i Rural Parking Control category in Text.
Urban Stopping category: O/A heading in Text.

Pedestrian Crossing

Pedestrian mispelled in index

Miscellaneous

Cross on Green formulation in index may be adequate though at variance with Text.

Differences Between Parts E & H and Database:
Two categories in E & H are in alignment with the Database: Priority, and Mandatory. Prohibitory and Restrive has been commented on. Parking and Standing more correctly would be Standing and Parking. The variant classification attempted to summarize groups of terms instead of listing each term and thereby greatly expanding the classification. However, a clear correlation of between the summary groups and the actual signs fell short of actualization. The Prohibitory category appears in the correct form in the variant classification. Mandatory Signs includes considerable details for some forms while entirely overlooking other other forms.
Painted Lines*
Paint Markings*
Raised Horizontal Markings*
Raised Markings*
Traffic Paint Markings*
Barricades & Channelizing Devices

3) T-M Studies Category Terms*
Alphanumeric Markings
Graphic Markings
Horizontal Markings
Horizontal Markings: Longitudinal
Vertical Markings

2E2 Pavement & Curb Markings
a) Longitudinal Markings
1) Center Line Markings
   Center Lines/Centerlines*/Center-Line Markings/Centerline Markings*/Center Markings/Centerline Stripes/Pavement Centerlines/Yellow Centerline Pavement Markings*
   Directional Dividing Lines
   Double Centerlines
2) Edge Lines
   Border Lines Indicating the Limits of the Carriageway Limits
   Carriageway Edgelines
   Carriageway Limit Lines*
   Edge Lines/Edge Line Pavement Markings*/Edge Line Markings*/Edge of Carriageway Markings*
   Edge Markings/Edge-Markings/Edgeline Raised Markers*
   Left-Hand Edge Lines*/Right-Hand Edge Lines*
   Limits of Travelled Roadway Pavement Markings*
   Pavement Edge Lines
   Pavement Edge Lines Markings
   Pavement Edge Markings
3) Lane Markings
   Centerline & Left Edge Line Pavement Markings
   Channelizing Lines

Continuous Lines for “Particular Situations”*
Highway Traffic Lines*
Lane Lines/Lane Lines Pavement Markings*
Lane Lines & Right Edge Line Pavement Markings*
Lane Lines at Controlled Intersections
Lane Markings
Lane Reduction Transition Markings*
Oblique Parallel Lines*
Pavement-width Transition Markings
Reserved Lane Markings
Road Markings for a Lane Reserved for Certain Categories of Vehicles
Solid Long Lines*
Temporary Lane Markings
Traffic Lane Markings
Traffic Lines*
White Lane Lines Pavement Markings*
White Lines*
White Line Markings*
White Line Road Markings*

4) Other Longitudinal Markings
   Bi-Directional Retro-Reflective Marker*
   Ceramic Marker*
   Collimating System*
   Electronic Powered Emissive Markers*
   Formed-in-Place Markings*
   Lens-Types Reflectors*
   Luminous Marks*
   Magnetic Markers*
   Marking Extensions Through Intersections or Interchanges/
Pavement Markings Extensions Through Intersections
   Markings at Particular Locations
   Markings for Particular Situations
   Marking of Obstructions (Dual)
Non-Reflective Buttons*
Non-Reflective Marker*/Non-Retro-Reflective Marker*/
Non-Retro-Reflective Ceramic Marker*/Non-Reflective
Ceramic Pavement Marker
No-Passing Zone Markings/No-Passing-Zone Markings
Protuding Markers*
Radioactive Emissive Markers*
Raised Pavement Markers/Raised Reflective Pavement
Markers/Raised Reflective Markers/Reflective Pavement
Markings/Recessed Reflective Marker/Pavement Marker
Reflecting Road Studs/Catseyes/Cats-eyes*/Buttons*
Reflective Buttons*
Reflective Markers*
Retro-Reflectors*/Bi-Convex Reflectors*/Corner-Cub Reflectors*
Retro-Reflective Marks*/Retro-Reflective Markers*/Retro-
Reflective Units*
Audible Roadway Delineation/Rumble Stripes/Rumble Strips/
Chatter-Bar*
Self-Luminous Reflectors*
Snap-Over Markers*
Snowplowable Reflective Markers
Streetcar Clearance & Transit Vehicle Guide Lines
Guide Lines for Turning Vehicles/Turn Markings/
Turning Movements of Vehicles

b) Transverse Markings
Crosswalk Lines/Cross-walk/Crosswalk/Crosswalk Markings/
Pedestrian Crossings
Cyclist Crossing Markings
Intersection Markings (Sub-OA)/Intersection Pavement Markings*
Limits Lines/Stop Bar/Stop Lines
Lines Indicating Points at Which Drivers Must Give Way
Railroad Crossing Markings/Railroad Crossing Advance Markings/
Railroad-Highway Grade Crossing Pavement Markings/
Approaches to Railroad Crossing Markings/Approaches to
Railway Crossing Markings

Transverse Lines at Controlled Intersections/Transverse Lines
at Uncontrolled Intersections
c) Other Pavement & Curb Markings
Advanced Speed Hump Markings*
Arrows*/Arrow Markings/Legends & Symbols/Word Markings/
Word Messages/Word & Symbol Markings
Approach Markings for Obstructions in Roadway/Marking of
Obstructions
Center & Left Edge Line Pavement Markings*
Centerline Markings for Shared-Use Paths
Colored Pavements
Coloured Cement Concrete Markings*
Curb Markings/Curb Markings for Parking Restrictions
Directional Markings
Dynamic Envelope Delineation*
Dynamic Envelope Markings*
Dynamic Envelope Pavement Markings*
Exit & Entrance Interchange Ramp Markings
Highway-Rail Grade Crossings Pavements Markings*
Markings for Bicycle Lanes*
Markings for Other Circular Markings*
Marking Patterns & Colors on Shared-Use Paths*
Median Islands Formed by Pavement Markings
Object Markers on Shared-Use Path
Oblique Parallel Lines*
Pavement Markings/Parking Space Markings/Paving Space Limits/
Parking Space Lines
Pedestrian Lines*
Preferential Lane Longitudinal Markings for Motorized Markings*
Preferential Lane Word & Symbol Markings*
Reflective Pavement Legends
Speed Hump Markings*
Speed Measurement Markings*
Standing & Parking Regulations
Stop & Yield Markings*
Surface Dressing Markings*
Train Dynamic Envelope Pavement Markings*
Yield Lines*

2E3 Hazard, Obstruction, & Delineation Markings
a) Hazard & Obstruction Markings
   General Note
   Clearance Markers
   End of Road Markers/End-of-Roadway Markers*/End-of-Roadway Markings*
   Markers Adjacent to the Roadway*
   Markers for Objects in the Roadway*
   Marking of Obstructions
   Hazard Markers
   Object Markers Types I, II, III
   Reflective Markers

b) Delineators
   Bidirectional Reflective Delineators/Monodirectional Markers
   Guide Markers/Guide Posts
   Delineators/Delineators-Curb*/Delineators-Upright*/Post Mounted
   Delineators/Post-Mounted Markers/
   Road Delineators/Road-Edge Delineators/Roadway Delineator/
   Roadside Delineator/Road Delineators/Road-Edge Delineators/
   Post Delineators/Road-Delineation Markers
   Curb Markings for Roadway Delineation
   Lateral Delineators*
   Lateral Signs*

c) Barricades & Channelizing Devices
   General Note
   Barricades, Types I, II, III
   Barricades-Portable*
   Barricades-Permanent*
   Channelizing Devices
   Channelizing Devices-Traffic Cones*
   Channelization Devices*
   Direction Indicator Barricade*

Drums
High-Level Warning Devices (Flag Tree)*
Heavy Barricades
Light Barricades
Portable Barrier*
Portable Flasher Support
Traffic Cones
Tubular Markers
Vertical Panels

Cone

Notes

New Terms:
UK MOT
Buttons
Cats-eyes

Lay 1991
Centerlines

Parts E & H
Alphanumeric Markings
Graphic Markings, H only
Horizontal Markings
Horizontal Markings: Longitudinal & Transverse Forms, E only
Horizontal Markings: Multi-Directional, Graphic & Alphanumeric Forms
Multiple-Directions Markings
Vertical Markings
Carriageway Limit Lines, E only
Continuous Lines for “Particular Situations”, E only
Oblique Parallel Lines, E only
Yield Lines, E only
Pedestrian Lines, E only
Arrows, E only
Delineators - Curb, E only
Delineators - Upright, E only
Channelizing Devices - Traffic Cones, E only
Barricades - Portable, E only
Barricades - Permanent, E only

Note: Some changes in the classification of E and H are more in the form of category terminology than actual individual terms. This is especially true of first seven terms in Parts E & H list.

TCD Handbook 1983

Markings System
Non-Reflective Ceramic Pavement Markers
On-the-Roadway Markings
Paint Markings

MUTCD 2000 and 2003 [with earlier terms omitted from Database]

Advanced Speed Hump Markings
Approach Markings for Obstructions
Bicycle Detection Markings, 2003
Centerline & Left Edge Line Pavement Markings, 2000
Centerline Markings for Shared-Use Paths
Direction Indicator Barricades
Dynamic Envelope Delineation, 2000
Dynamic Envelope Markings, 2003
Dynamic Envelope Pavement Markings, 2000
Edge Line Markings
Edge Line Pavement Markings

Highway-Rail Grade Crossings Pavement Markings
High-Level Warning Devices (Flag Trees) [1971: picture only; 1978]
Intersection Pavement Markings
Lane Lines & Right Edge Line Pavement Markings, 2000
Lane Line Pavement Markings, 2003
Lane Reduction Transition Markings
Longitudinal Pavement Markings
Markers for Objects in the Roadway
Markers Adjacent to the Roadway
Markings for Bicycle Lanes, 2000
Marking Patterns & Colors on Shared-Use Paths, 2000
Markings for Roundabouts
Markings for Other Circular Intersections
No-Passing Pavement Markings
Object Markers on Shared-Use Paths, 2000
Obstruction Pavement Markings
Pavement Markings, 2000
Pavement Markings for Obstructions
Portable Barrier [1978]
Preferential Lane Word & Symbol Markings
Preferential Lane Longitudinal Markings for Motorized Markings
Speed Hump Markings
Speed Measurement Markings
Stop & Yield Markings
Train Dynamic Envelope Parking Markings
Yellow Centerline Pavement Markings 2003
White Lane Line Pavement Markings 2003

OECD 1975

Amber/Green/Red Markers
Bi-Directional Red & White Retro-Reflective Marker
Bi-Convex Reflectors
Cats Eye Centerline Markings
Cats Eye Marker
Centre Lines
Ceramic Marker
Channelization Markers
Collimating System
Coloured Cement Concrete Markings
Corner-Cube Reflectors
Edge Lines
Edgeline Raised Markers
Electrically Powered Emissive Markers
European Road Marking System
Formed-in-Place Markers
Highway Traffic Lines
Horizontal Markings
Horizontal Signing
Hot-Applied Surface Markings
Lanes Lines
Lateral Delineators
Lateral Signs
Lens-Type Reflector
Luminous Marks
Magnetic Markers
Marked Surfaces
Marking & Delineation Devices
Marking Devices
Marking Systems
Non-Reflective Markers
Non-Retro-Reflective Markers
Non-Retro-Reflective Ceramic Markers
Non-reflective Reflectors
Paint Markings
Painted Lines
Pavement Surface Markings
Ploughable Raised Markers
Protuding Markers

Radioactive Emissive Markers
Raised Horizontal Markings
Raised Markings
Raised Pavement Markers
Raised Reflective Lane Markers
Reflecting Buttons
Retro-Reflective Marks
Retro-Reflective Markers
Retro-Reflective Units
Retro-Reflectors
Reflective Markers
Road Marking & Delineation
Self-Luminous Reflectors
Snap-over Markers
Snowploughable Raised Markers
Solid Long Lines
Stop Lines
Surface Dressing Markings
Traffic Lines
Traffic Paint Markings
White Lines
White Line Markings
White Line Road Markings

Differences Between Index & Text:

Roadway Delineation, and Traffic Delineation Markings: Sub-Overarching terms in text; now separated.

Hazard, Obstruction & Delineation Markings: This is a corrected category that omitted “Obstruction” both in Index and in Text.

The Sub-Overarching Headings of Broader Terms is changed to More General terms in both Index and Text.

Center Lines/Center-Line Marking/Center Marking/Centerlines Stripes: together in Text, and now also in Index.
Pavement Centerline: In Text but omitted in Index; it is now added.
Pavement Markings, an overarching term, was also listed as individual term in Index but not in Text; now deleted from index.

Edge Lines: 9 items all together in Text; 3 additional in Index: Left-hand Edge Lines, Right-hand Edge Lines, Limits of Travelled Roadway. They are added to Text as well as Carriageway Limit Lines from Part E. Pavement Markings added to Limits of Travelled Roadway. Terms on separate line in Index but arranged in sub-groups in Text. Formerly all terms in one group in Text.

Border Lines: Different formulation in Index than in Text. Index altered to conform to Text.

Reserved Lane Marking: “Marking” omitted in Index but now added.

Raised Pavement Markings in Index but apparent error. It is changed to Raised Pavement Markers as is the case in the Text.

Reflective Road Studs: Reflecting in Text but now altered to “Reflective.”

Lines Indicating Points at Which Drivers Must Give way in Text but omitted in Index; it is now added.

Pedestrian Crossing in Text but absent from Index; it is now added.

Limit Lines/Stop Bars/Stop Lines now together in Index as in Text.

Curb Markings in Text but omitted in Index; it is now added.

Color Pavements given in Text but correct term is Colored Pavements which has been added.

Reflectorized Pavement Legends in Index is now changed to Reflective Pavement Legends as listed in Text.

Stopping & Parking Restrictions in Index but Standing & Parking Restrictions in Text; the later is correct. Markings added to term.

Reflectorized Hazard Markers in in Index but not in Text; it is now added.

Reflective Hazard Markers: Term should be Reflector Marker for Index and Text. “Hazard” lacking in Text.

End of Roadway Markers and End of Road Markers both present in MUTCD 1988 and therefore both present in Index and in Text.

Clearance Markers situated in different places in Text and in Index. The term is now in the same location for both.

Most Delineators constitute one entry in Text but they appear on separate lines in the Index; that practice is continued in this study.

Object Markers Types I, II, III are to be found in the Text but they are configured differently than in the Index.

Guide Markers & Guide Posts accompanied by notations of uncertain meaning in the Index for the Database. Those notations are now deleted.

Audible Roadway Delineation in Text has been changed to Delineator.

Road-Edge Delineator Markers has been added to Road-Edge Delineators.

Road Delineators is in Text but not in Index; it is now added.

Road-edge Delineators in Text but not in Index; it is now added.

Barricades have a different configuration in the Text than in the Index.

Cones in text but not in Index; they are now added.

Differences Between Part E & H and Database:

The Database classification is subdivided into major types and further divided into more detailed forms. The classifications of Parts E & H, by contrast, use basic forms (horizontal, vertical) with major forms placed within those forms. Details are to be found in variant classifications. Part H only partially includes specific types; Part E expands those types yet it does not include all types. This is in contrast to the classifications of Traffic Signals and Traffic Markings. The Database, therefore, has an advantage over the Parts E and H classifications. But both need further expansion.

Parts E and H have category forms that are new to the Database. Some of these are “coinings” of the compiler.
CHAPTER THREE
RAILWAY SIGNALS & OTHER DEVICES

Note
Not all of the Database terms are in this study. Terms that are included relate to physical signal terms and other terms that include the word signal. These latter terms include message, morphological and system forms. Solomon 2003 notes the two-fold use of the term Signal in railway operations: both fixed hardware and signal aspects. This two-fold usage can be confusing. In this study, where a non-physical term includes signal then the term is included. This practice goes beyond the use of the term in the classification, but omit many uses in the database. Solomon 2003 also refers to fixed signals and human signals. This creates a three-fold distinction. This study therefore includes terms that incorporate the term signal though the physical signal has greater significance.

3A General Railway Signal Terms
3A1 Overarching Terms
a) Signal Terms
   Signaling/Signalling
   General Notes I, II
   Signal
   Signal Apparatus
   Signal Appliance
   Signal Device/Signalling Device
   Signal System/Signalling System/Signalling System
   Signal System, Device, or Appliance
   Signal Implement
b) Fixed/Lineside/Railway-Railroad/Wayside Signal Terms
   Fixed Signal
   Fixed Railroad Signal
   Fixed Signal Systems/Fixed-Signal System
   Fixed Signalling*
   Fixed Wayside Signal/Fixed Wayside System
   Line Signalling System

 Lineside Equipment/Lineside Signal/Lineside Signalling/Lineside Visual Signal/Lineside Fixed Signals
 Line-side Signal*
 Line-side Signalling*
 Railway Signal/Railroad Signal
 General Note
 Railway Signalling/Railway Signalling/Railroad Signalling
 Railway Signalling & Control Systems/Railway Signalling & Control
 Railway Signalling, Control & Communications Systems
 Railroad Signalling System/Railway Signal System/Railroad Signal System/Railway-Signal System/Railway Signalling System/
 Railway Signalling System
 Wayside Signal/Wayside Signal System/Wayside Signals & Controls/Wayside Signalling*

c) Other Overarching Terms [Some terms may need to be relocated]
   Electric Light Signal*
   Fixed Trackside Signal/Fixed Trackside Color Light Signal
   Immovable Signal
   Light Signal*
   Night Signals*/Night Signalling*
   Optical Signals/Optical Signs & Signals
   Rail Aids*
   Rail Signals*
   Railway Visual Signals*
   Roadway Signals
   Safety Aids*
   Safety Signals*
   Stationary & Fixed Signals
   Trackside Devices*
   Trackside Railway Visual Signalling Systems*
   Trackside Signalling/Trackside Signals/Track-Side Signals/Track Side Signals/Trackside Railroad Signals
   Trackside Visual Signalling*
   Visual Lineside Signal*
   Visual Signals/Visual Signalling/Visual Signalling System
Warning System
Wayside Devices*
d) Possible/Partial Overarching Terms
1) Energy & Technology-Related Terms
   General Note
   A.C. Signaling
   All-Electric Power Signalling
   Electric Signal/Electric Signal System/Electric Signaling/Electric
   Signalling/Electrically-Operated Signals
   Electro-Gas Signal
   Electro-Mechanical System
   Electro-Pneumatic Signal/Electro-Pneumatic Signalling
   Low-Pressure Electro-Pneumatic Signalling
   Manually Operated Fixed Wayside Signals/Manually Operated
   Signals/Manual Signals/Manual Signalling
   Mechanical Signals/Mechanical Signalling
   Motor-Operated Distant Signals
   Power Operated Signals/Power-Operated Signals/Power
   Signalling/Power-Signalling/Power-Worked Signals
2) Physical-Morphological Overarching Terms
   General Note
   Main Route Signals
   Main Signal/Main Line Signal/Mainline Signal
   Primary Signal
   “Universal” Signal
   Symbol Information Processing
3) Possible Overarching Terms-Miscellaneous
   Functional Signal System
   Safe Working/Safeworking/Safe-Working/Safeworking
   Appliances
   Signal-&-Control Systems/Signal & Control Systems
   Signal & Switch Systems
   Signalling Devices
   Trackside Warning Signals
   Train Signals & Controls

4) Terms Including Hardware Components
   Bracket Signal
   Bridge Signal
   Doll Signal
   Lattice Post Bracket Signal
   Lattice Post Signal
   Left-Hand Bracket Signal
   Tubular Steel Bracket Signal

3A2 Message, Morphology & System Terms

Note

This segment conflates three separate units of the Database. The Database
was intended to be a comprehensive coverage of terms: fixed signal forms but
also closely-related terms other than fixed signals. This index/classification
centers on fixed signals (since the modal classification is that of fixed entities).
For that reason only terms that include inclusion of the term Signal (or related
terms) are included. A clear separation of hardware terms from messages,
functions and systems may have generated less confusion but railway practice
development did not follow that direction. Terms that include the word signal are
included though non-fixed signal terms are separated from actual signal
apparatus. The following material includes just two color terms. There are many
more color terms. But consulted sources include only these terms with signal or
marker attached to them. Marker is included since it is a major safety aid term.

a) Messages: Aspects & Indications
   1) Color
      Double Yellow Signal
      Lunar White Marker Lamp
   2) Aspects
      Two-Aspect & Related-Forms: 26 with Signal, Signalling or
      Indicator

150

151
Three-Aspect: 20
Four-Aspect: 13
Other Forms: 14

3) Indications
- Clear Signal
- Proceed Signal
- Caution Signal
- Approach Signal
- Stop Signal
- Preliminary Caution Signal
- Limited Clear Signal/Medium Clear Signal/Slow Clear Signal
- Approach Limited Signal/Approach Medium Signal/Approach Slow Signal/Advance Signal
- Stop & Proceed Signal/Grade Signal

b) Morphology
1) Overarching Terms
- Running Signals
- Primary Signals
- Running Line Signal
- Color Light Running Signals
- Main Signals

2) Stop Signals
- Advance Signal
- Advanced Signal
- Buffer Stop Signal
- Coleigny-Welch Signal Lamp
- Dead Signal
- Fixed Stop Signal
- Splitting Home Signal
- Splitting Signal
- Stop Signal
- Color Light Stop Signal/Automatic Stop Signal/Semaphore Stop Signal/A.P. Permissive Stop Signal

3) Starting Signals
- Starting Signal
- Starter Signal
- Advanced Starting Signal/Advance Starting Signal/Section Signal

4) Distant Signals
- Auxiliary Signal
- Distant Signal/Distant Semaphore Signal/Distant (Warning) Signal/Hall Distant Signal/Distant-Signall
- Warner Signal
- Warning Signal
- Outer Distant Signal/Inner Distant Signal/Distant Signal Color Light/Color Light Distant Signal
- Advance Signal
- Approach Signal
- Unworked Distant Signal/Signal, Distant/Splitting Distant Signal
5) Systems
- Absolute Signal
- Advanced Section Signal
- Automatic Block Signals
- Automatic Signals
- Block Signal
- Block & Interlocking Signals
- Controlled Signals
- Holding Signals
- Interlocking Dwarf Signal
- Intermediate Block Signal
- Intermediate Signal
- Interlocking Signals/Signals, Interlocking
- Permissive Signal
- Semi-Automatic Interlocking Signals
- Semi-Automatic Signals

6) Route & Junction Signals
- Directing Signal
- Entry (Route Signal)/(Route Light Signal
- Junction Signal
- Route Signal
- Route & Junction Signals
- Routing Signal
- Turnout Signal
- Four-Way Shunting Signal

7) Other Signal-Running Operations
- AB Entry Signal
- Backing Signal
- Non-Stop Permissive Automatic Signal
- Wrong Road Signal/Wrong-Road Signal
- Station Signal
- Station Protection Signal
- Platform Signals
- Precaution Signals
- Protecting Signals

8) Subsidiary Signals
- Subsidiary Signals
- Switch Signals/Points Signals

9) Physical Shunting Signals
- Shunt Signal
- Shunting Signal
- Signal for Shunting/Signals for Shunting Movement
- Switch Signal
- Disc Shunting Signal
- Shunting Disc Signal
- Ground Shunt Signal
- Mechanical Shunting Signal
- Position Light Shunt Signals
- Shunt Signal (Position-Light)
- Power-Operated Shunt Signal

10) Function-related Shunting Signals
- Backing Signal
- Calling-on Signal
- Close-up Signal
- Draw-Ahead Signal
- Draw-Ahead Position-Light Subsidiary Signal
- Elevated Shunting Signals
- Facing Shunt Signals
- High Shunting Signal
Humping Signal/Hump Shunt Signal
Independent Shunt Signal
Limits of Shunt Signal
Main/Shunt Signal
Miniature Arm Shunting Signal/Miniature Arm Shunt Signal
Running Shunt Signal
Running Subsidiary Shunt Signal
Set-Back Signal
Shot Shunting Signal
Shunt Ahead Signal/Shunt-Ahead Signal
Sub-Shunting Signal
Subsidiary Shunting Signal
Siding Shunt Signal
Warning Signal

11) Siding, Train Yard & Other Signals
Goods or Siding Signal
Hump Signal/Humping Signal
Marshalling Yard Signal
Outlet Signal
Siding Signal
Take Siding Signal
Terminal Signals
Yard Exit Signals
Dead-End Signal
Directing Signals

12) Message-Related Signal Terms
Absolute Signal
All Right Signal
Caution Signal
Cautionary Signal
Deceleration Signal
Permissive Signal
Permissive Stop Signal
Proceed Signal

13) Miscellaneous Signals
Accept Signal/Accepting Signal
Appendant Signal
Arrival Signal
Deceleration Signal
Dragging Equipment Signal
Intermediate Signal
Merry Go Round Signal
Outer Signalling
Platform Line Signal
Snow Shed Territory with Color Light Signals
Station Departure Color-Light Signal
Subsidiary Signal
Temporary Signal
Track Occupancy or Departure Signal
Trolley Line Signal
Yard Track Signal

156

157
<table>
<thead>
<tr>
<th>Terms</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Automatic Block Signalling on Double Track/Automatic Block Signalling on Single Signalling</td>
<td></td>
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<tr>
<td>Automatic Signalling</td>
<td></td>
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<tr>
<td>Control System for Single-Track Signaling</td>
<td></td>
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<tr>
<td>Double-Track Block Signalling</td>
<td></td>
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<tr>
<td>Multiple-Block Signalling</td>
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<tr>
<td>Roadway Automatic Block Signal System</td>
<td></td>
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<tr>
<td>Semi-Automatic Block Signalling</td>
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<tr>
<td>Three-Block Signalling</td>
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<tr>
<td>Two-Block Automatic Signalling</td>
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<tr>
<td>Three-Block Automatic Signalling</td>
<td></td>
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<tr>
<td>Single-Track Automatic System</td>
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<tr>
<td>Single-Track Automatic Signalling</td>
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<tr>
<td>Single-Track Automatic Signal System</td>
<td></td>
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<tr>
<td>5) Absolute/Permissive Terms</td>
<td></td>
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<tr>
<td>APB Single-Track Signaling</td>
<td></td>
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<tr>
<td>Absolute Permissive Block Signaling</td>
<td></td>
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<tr>
<td>A.P.B. Scheme of Signaling/Absolute-Permissive-Block Scheme of Signaling</td>
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<tr>
<td>Absolute &amp; Permissive Signaling on Double Track</td>
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<tr>
<td>6) Other Block Signals</td>
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<tr>
<td>Moving Block Signalling</td>
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<tr>
<td>Moving Block Signal</td>
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<td>Nachod Signal System</td>
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<tr>
<td>Overlap Block Signal System</td>
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<tr>
<td>Overlap Scheme of Signaling</td>
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<tr>
<td>7) Interlocking Signalling Terms</td>
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<tr>
<td>Interlocking Signalling</td>
<td></td>
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<tr>
<td>Electrical Signal Interlockings</td>
<td></td>
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<tr>
<td>Key Interlocking Signalling</td>
<td></td>
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<tr>
<td>Mechanically-Interlocked Points &amp; Signals</td>
<td></td>
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<tr>
<td>Signal/Point Interlocking</td>
<td></td>
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<tr>
<td>8) Train Control Terms</td>
<td></td>
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<tr>
<td>Overarching Terms: Signal &amp; Control System</td>
<td></td>
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<tr>
<td>CTC Terms: CTC Railway Signaling System</td>
<td></td>
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<tr>
<td>9) Specific Named Terms</td>
<td></td>
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<tr>
<td>SNCF Signalling System for VHS/VHS System of Signalling &amp; Signalling System for High Speed</td>
<td></td>
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<tr>
<td>Micro Processor-Based Signalling System</td>
<td></td>
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<tr>
<td>TBS, Transmission-Based Signalling System</td>
<td></td>
</tr>
</tbody>
</table>

Note

New Terms:

- Wayside Signaling, Vantuomo 1993
- Fixed Signaling, Grafton 1896
- Safety Signal, Grafton
- Night Signals, Grafton
- Line-Side Signals, Solomon 2003
- Line-Side Signaling, Solomon 2003
- Light Signal, Solomon 2003
- Electric Light Signal, Solomon 2003
- Wayside Devices, Welty 5-1988/C & S ... 1996
- Night Signaling, Breckenridge 1967
- Trackside Devices, Sterner, ud
- Fixed Trackside Color-Light Signals, Kanner 1992
- Safety Aids, Chandrika 1998
- Railway Visual Signals, Tansley 1985
- Trackside Railway Visual Signalling Systems, Tansley
Trackside Visual Signalling, Tansley

Rail Aids, Part J

Rail Signals

The Database also includes Primary Overarching Terms in Other Languages. Some terms are overarching while others are for full and partly lighted signals. One term, Light Signals, is included though the Database omits that term from general overarching terms. The Database also includes a Signal Component segments. Some of those terms are signal terms though containing a hardware component. The signal terms are included in this study.

Differences Between Index and Text of the Database:

Bridge Signal in Text; add to Index.
Fixed Wayside Signal in Text; add to second term of Index.
Railway Signaling System in Text; add to Index.
Railway Signaling and Railway Signalling separated by comma in Index; changed to slash.
Train Light Signal in Text; add to Index.
Left-Hand Bracket Signal in Signal Components; add to Index.
Restriction Indication in Index should be Restricting Indication.
Medium Signal in Index is duplicated; omit one term.
Median-Clear: hyphen in Text but not in Index.
Approach Diverging Route: route in Text; add to Index.
Approach-Medium: hyphen in Text but not Index.
Coleigny-Welch Signal Lamp omitted from Index; now added.
Advance Starting Signal Starter Semaphore: not in Text; omit last two words from Index.
Fixed Distant Signal lacks Signal in Text.
Outer Distant, Inner Distant Signal: / not rather than , in Index.
Tunnel Junction Signal/Tunnel Repeating Signal: Text has repeater.
Color Light Points Indicator: Colour in Text.
Points Indicator-Arrow: Text adds Type to term.

Main/Shunt Signal in Text; Signal omitted in Index.
Deceleration Signal in Index and in Text though in a different segment in latter.
Merry Go Round Signal; not in Text but source located and needs to be in Text.
Snow Shed ... Color Lights: Text has C.L.
Automatic Block Terms (1E d));
Lower entries listed in Text under Absolute/Permissive Terms (1E1 d)) [d] should be e).
Automatic Train Operations/Automatic Train Operation System: Text has Train Protection System
Train Stop has hyphen in Index but omitted in Text.
Automatic Train-Stop Devices--separate entry in Text; not in Index; now added.
Train Situation Indication: Text has Indicator.
Comtrac lacks second “c” in Index.
Microlok: Text has Microlock.

Differences Between Classifications and Database:

OA terms: Parts F and H employ Trackside Signals as a primary term though a minor and infrequently used term in the Database which reflects the literature.

Note: Chapter 1 of the Database takes up overarching terms, messages, morphology and systems. Therefore only limited terms shared by classifications and database. Some limited terms may be shared -- or partially so -- in other parts of the study (e.g., Morphology terms such as Shunting may be combined with physical term such as Position-Light Signal).
3B Fully & Partially-Lighted Signals

3B1 Overarching Terms

Illuminated Signal
Light Signal
Railway Signal Lights
Signal, Light
Signal Light
Visual Signal Light

3B2 Color Light Signal Terms

a) Principal Signal Types

1) Basic

Color Light Signal/Color-Light Signal/Colour Light Signal
Colour-Light Signal/Colourlight Signal
Color-Light Type/Color Light Type/Color-Light Type Signal/
Colour-Light Type of Signal
Colorlight*/Color Light*/Color-light Signaling*

2) Limited-Variants

Signal, Color Light
Colour Light/Colourlight/Colour-Light
Color Signal/Colour Signal
Coloured Lights

3) Variants

Automatic Colour-Light Signal
Colour Light Running Signals/Colour-Light Running Signals
Multiple-Lens Colour Light Signal/Multiple-Lens Colour-
Light Signal/Multiple-Lens Four-Aspect Colour-Light
Signal/Colour-Light Signals Multi-Aspect Vertical
Multi-Colored Light Signal
Multi-Unit Coloured Light Signal
Multi-Head Color-Light Signals*
Single-Head Color-Light*
Spreadlight Colour Light Signals/Long Range Spread Light
Colour Light Signal/Spreadlite Colour Light Signal
Three-Head Color-Light Signal*

4) Signaling Terms

Automatic Colour-Light Signalling
Color Light Signaling/Colour Light Signalling/Colour-Light
Signalling/Colour-Light Signalling (Taiwan)
Colour Signalling
Electric Automatic Colour-Light Signalling

b) Other Color Light Signals

1) Distance Terms

Color-Light Type Signal, SR/Short Range Signals
Medium Range Color Light Signals/Medium Range Color
Signals
Long Range Colored Light Signals
Long-Range Color-Light Signal
Long Range Colour Light Signal
Long Range Daylight Signal
Long Range Signal
Long Range Type
Long Range Daylight Type Color Light Signal
Short Range Color Light Signals/Short-Range Color Light/
Short Range Colour Light Signal
Short-Range Color-Light signals [Vertical Type, Subway Type]

2) Lens Arrangement Terms

Long Range Color Light Signals, Vertically Arranged/
Type D Long Range Color Light Signals, Vertically
Arranged/Type D (Vertical) Color-Light Signals
Horizontally Arranged Long Range Color Light Signals/
Long Range Color Light Signals, Horizontally Arranged/
Type E (Horizontal) Color Light Signals/Horizontally
Orientated Color-Light Signal*/Horizontally Orientated Color-Light
Signal*

Triangular Arrangement Color Light Automatic Block
Signals/Colour Light Signals Arranged in a Triangle/
Type G (Triangular) Color-Lights Signals/Triangular
Position-Colour-Light*/Colour-Light with Triangular
Light Pattern*/Triangular-Pattern Colour-Light*/
Triangular-Pattern Colour-Light Signal*
Cluster Type Signals/Cluster Type Four-Aspect Signals/
Cluster Colour-Light Signals
Colour-Light Signals Multi-Aspect Cluster

3) Morphology & Other Terms
Approach-Lit Color-Light System/Approach-Lit
Mechanical Colour-Light Signals
Christmas Tree
Color-Light Automatic Block Signals*/Color-Light Block
Signals*/Color Light Interlocking & ABS Signal*
Colour-Light Route Indicator
Colourlight Signal-Underground Style
Colour Light Signal (Humping)
Colour Light Shunt Signal
Day Colour-Light Signal
Double Light Signal
Fairyland
Mechanical Color-Light Signals
Miniature Colour-Light Signals/Miniature Colour Light
Signals
Three-Aspect Day-Time Colour-Light Signals
Type-D Color-Light*
US&S Color-Lights*/Safetran (3-Light) Color-Light Signals*/
GRS Color-Light*/Raco Color-Light*/GRS Triangular
Color-Light*/GRS Triangular-Pattern Color-Light Signal*

3B3 Searchlight Signals
General Note
Searchlight
Searchlight Signal
Search-Light Signal
Searchlight Type
Searchlight Type Signal
Search Light Signal
Search Light Type Signal
Searchlight Color Light Signal
Searchlight Type of Colorlight Signal/Searchlight Type Colour Light
Signal
Searchlight-Type of Color-Light Signal
Searchlight Type of Single-lens Colour-Light
Colour Searchlight Signal
Color-Light Signal, Searchlight Type
Dwarf Searchlight Type
Color Light High Signal, Searchlight Type/Color Light Dwarf Signal,
Searchlight Type
GRS Searchlight*
Hall Searchlight*
Hall-Type Colour-Light Signal
LEDS Searchlight Signal
Right-Hand Searchlight*
Short-Range Signal*
Single-Head US&S*
Single Lens Searchlight Signal
Single Light Signal
Twin-Head Searchlight Signal*/Two-Head Searchlight Signal*

3B4 Other All-Lighted Signals Terms
a) Single Lens Units : Morphological Dimension Frequently Present
1) Terms Slightly More Morphological Than Physical
Marker
Marker Lamp
Marker Light
2) Terms Somewhat More Morphological Than Physical
Automatic “A” Signal/”A” Light/Illuminated “A” Light
 “L” Light
Multiple-Aspect Light Signal
b) Dwarf Signals [Frequently Multiple Lens]
Dwarf Signal
Signal, Dwarf
Colour Light Dwarf Signal/Colour Light Dwarf Signal
Dwarf Type Signal
Dwarf Signal-Electrical  
Dwarf Searchlight Signal/Dwarf Colourlight Signal  
Dwarf Colourlight Shunting Signal  

c) Undifferentiated Physical Signals Terms  
  Auxiliary Signals  
  Back Light I  
  Back Light II  
  Back-Light/Backlight  
  Side Light  
  Flasher Lights  
  Flashing Lights (Signal)/Flashing Light Signal/Flashing Lights  
  Flashing Signal  
  Signal, Flashing Light  
  Revolving Light Signal  
  Fixed-Focus Signal  
  High Signal  
  Light Strip  
  Modular Unit  
  Multiple Unit Signal  
  Multunit  
  Signal Lamp  

385 Position Light, Color-Position Light, & Alphanumeric, Graphic & Geometric Signals  
  a) Position Light Signal Terms  
     General Notes I, II, III  
     Position Light*/Position-Light*  
     Position Light Signal  
     Position-Light Signal  
     Position-Light Type Wayside Signal  
     Beam-Light Signal/Beam Light Signal  
     Signal, Position Light  
     Daylight Position Light Signal  
     Position Light Signal (LR)  

  b) Color Position Light Signals  
     General Note  
     Color Position Light Signal  
     Color-Position Signal  
     Color-Position-Light Signal  
     Signal, Color Position  
     Colour Position Light Signal  
     Color-Position-Light High Signal/Color-Position-Light Dwarf Signal  
     Color Position Light Dwarf Signal  
     Position-Color Light Signal  
     Color & Position Signal  

  c) Symbolic Signal Terms  
     General Note  
     1) Multi-Lamp/Theatre Indicators  
        Multilamp Route Indicator/Multi-Lamp Route Indicator/Multi-Lamp  
        Seven-Way Route Indicator/Three-Way Theatre Route
2) Stencil Indicators

Stencil Indicator/Stencil Type Indicator/Stencil Type Route Indicator/Stencil Route Indicator/Stencil Type Route Indicator/Stencil, Number or Letter Type/Stencil Type [Type]

3) Other Indicators

Arrow Indicator/Single Arrow Indicator/Double Arrow Indicator

3B6 Cab Signals Terms

a) Major Cab Signal Types

Cab Signal

General Note I, II, III

Cab-Signal

Automatic Cab Signal/Automatic Cab Signal System/Automatic Cab Signal System (ACS)/System, Automatic Cab Signal

Automatic Cab-Signal System Continuously Controlled Signal, Cab

Cab Signal System

Cab Signalling/Cab Signalling/Cab Signalling/Cab Signalling

General Note I, II

Cab-only Signals*

b) Operational Terms-Cab Signals

Cabmatic

A-C./D-C. Cab Signals/A-C./D.C. Coded Cab Signal System

CATC Cab Signals

Coded Continuous Cab Signal System/Coded Continuous Cab Signaling

Continuous Cab Signal System

Continuous Cab Signal/Continuous Cab Signalling

Continuous Inductive Cab Signal

Continuous System of Cab Signalling/Continuously Controlled Cab Signal/Continuously Controlled Cab Signal

Continuous Controlled Cab Signal System

Four-Aspect Coded 100 Hz Cab Signal System/Four-Indication Code Continuous Inductive Cab Signaling/Four-Indication Code Continuous Cab Signal System

Intermittent Cab Signaling/Intermittent Cab Signal System

Multiple-Indication Coded Cab Signal

Three-Speed Train Control Cab Signal

Two-Indication Non-Code System [Cab Signal]/Three-Indication Non-Code Track & Loop System [Cab Signal]

TVM 430 Cab Signalling System

c) Partly Morphological Terms

General Note

Four-Aspect Cab Signal

Four-Aspect Cab Signal System

Four-Aspect Cab Signaling*

Four-Aspect System* [Cab]

Four-Indication Cab Signal

Four-Indication Cab Signal System

Five-Aspect Cab Signal

Five-Aspect Cab Signaling

Multiple Aspect Cab Signal

Three-Indication Cab Signal

Two-Aspect Continuous Inductive Cab Signal*

Two-Aspect, Three-Aspect Cab Signal System*

Two-Indication Cab Signal

d) Other Cab Signals

ACSES Cab Signal*

Advance Cab Signal*

Cab Lights

Cab Signal Indicator*

Cab Signal Subsystem
Enforced Cab Signaling
System of Cab Indicators
Visual Cab Signals
Wayside Cab Signal Equipment
On-Board Cab Signal Equipment
Visualizer
e) Cab Signals with Sound Dimension [Primarily Acoustical Signal segment]
Indicator, Cab, Audible
Cab Indicators [Audible, Visual]
Cab Signal with Whistle & Acknowledger/Coded Continuous
Cab Signals with Whistle & Acknowledger
3B7 Partially-Lighted Signals: Semaphore
a) Overarching Terms
Semaphore Signals/Semaphores
General Notes, I, II, III
Ancient Lights
Railway Semaphore Signals/Semaphore Railway Signals
Dwarf Semaphores/Dwarf Signals/Dwarf Type Signal
Fixed Semaphores*/Fixed Semaphore Signal
Mechanical Signalling/Semaphore Mechanical Signalling
Mechanical Lower Quadrant
Non-visible Signals*
Semaphore Light
Semaphore Type
Signal, Semaphore
Visual Semaphore Signals*
b) Specific Signals
1) Lower Quadrant & Upper Quadrant Signals
General Note
Lower Quadrant/Upper Quadrant/Lower Quadrant Semaphore/
Upper Quadrant Semaphore/Lower Quadrant Signal/Upper
Quadrant Signal/Lower Quadrant Semaphore Signal/Upper
Quadrant Semaphore Signal/Upper-Quadrant Signal*
Lower-Quadrant Signal/L-Q Semaphore

UQ Type Semaphore/U-Q Semaphore Type Signal
Left-Hand, L-Q Semaphore Signal/Left-Handed Upper-Quadrant
Semaphore*
Modified LQ Signalling
2) Somersault Signals
Balance Arm Signal/Self-Balancing Somersault
SIGNAL/Somersault/ Somersault Pattern, Semaphore/Somersault
LQ Semaphore/Somersault Type Signal/Tumbler/Tumle Arm
Signal/Tumbler-Arm Semaphore*Semaphore Somersault
Signal/U-Q Somersault
Somersault Home Signal
Centrally Balanced Semaphore/Centre-Balance Signal
c) Semaphores: Methods of Operation
General Note
All-Electric Semaphore*/All-Electric Semaphore Signal
Electric Motor Semaphore Signal/Electric Motor Signal/Electric-
Motor-Driven Semaphore Signal/Electrically-Operated Semaphore
Motor-Driven Semaphore
Motor-Operated Semaphore
Motor Semaphore Signal
Lower-Quadrant All-Electric Semaphore*
LQ Signal Electric Operated
Electro-Gas Semaphore/Electrogas Signal/Electro-Gas Signal
Electropneumatic Lower-Quadrant Semaphore*/Electropneumatic
Semaphore*/Electro-Pneumatic Semaphore/LQ E-P
Semaphore/Electro-Pneumatically-Semaphore/Pneumatic Power
Signal*
Oil-Lit Semaphore Signal/Oil-Lit LQ Stop & Distant Signal
Power-Operated Signal
Mechanical Dwarf Signal
Mechanical Ground Signal
Mechanical Lower-Quadrant Semaphore*
Mechanical Operated Semaphore Signal
Mechanical Semaphore
Mechanical Signal
Mechanical UQ Signals
Manually-Operated L-Q Semaphore Stop Signal
Manually-Operated Semaphore
Base-of-Mast Mechanism/Base-of-Mast Mechanism
Semaphore*/Base-of-Mast Semaphore/Top-of-Mast
Semaphore/Top-of-Mast Mechanism/Top-of-Mast Mechanism
Semaphore*
Pneumatic Semaphore
Semaphore-Left of Mast/Semaphore-Right of Mast
d) Semaphores: Morphologically-Related Terms
General Note
Automatic Block Semaphores*/Automatic Block Semaphore Signal
Two-Arm, Two-Position Mechanism
One-Arm Three Position Mechanism
Three-Position Electro-Pneumatic Semaphore
Home Electro-Pneumatic Semaphore Signal
Distant E-P Semaphore Signal
Distant Semaphore
Five-Arm Lower-Quadrant Semaphore*
Home Semaphore
Limited Clear U-Q Signal, Vanns
Lower Quadrant Block Semaphore*
L-Q Distant Signal, Taylor
L-Q Stop Signal,
One-Arm Two-Position Signal
One-Arm Two-Position-LQ—Signal
One-Arm, Two-Position UQ Dwarf Signal
One-Arm Signal
One-Arm Mechanical Ground Signal
One-Blade Lower-Quadrant Signals*
Pneumatic Block Semaphore*
Semaphore Distant Signal
Semaphore Manual Block
Semaphore Running Signal
Semaphore Shunt Signal
Semaphore Stop Signal
Semaphore-Type Automatic Block Signal
Single-Arm Upper-Quadrant Semaphore*
Stop Semaphore
Two-Arm Mechanical Ground Signal
Three-Position Lower-Quadrant Semaphore*
Three-Position Slotted-Mast Semaphores*
Three-Position Upper Quadrant
Three-Position Upper-Quadrant Semaphore*/Three-Position Upper Quadrant Type*
Three-Position Semaphore Signal
Two-Position Lower-Quadrant Semaphore*
Two-Position Semaphore
UQ Splitting Signal
Upper Quadrant Two-Position
US&S Style-B Lower-Quadrant Block Signal*
Three-Arm Signal
Three-Aspect Semaphore
Three-Blade Semaphore*/Three-Blade Upper-Quadrant Semaphore*
Three-Position Semaphore Block Signal
Two-Position Semaphore Upper Quadrant
Three-Position Semaphore Upper Quadrant
Twin-Arm Lower-Quadrant Semaphore*
Two-Arm E-P Dwarf Signal
Two-Arm Signal
Two-Arm Two-Position Signal
Two-Arm Two Position Signal
Two-Arm Two Position LQ Signal
Two-Aspect Upper Quadrant
Multi-Aspect Upper Quadrant
c) Semaphores: System-Related Terms
General Note
Automatic Block Semaphore
Automatic Motor-Operated Semaphore
Automatic Semaphore
Automatic Semaphore Signal
Automatic Three-Position Upper Left-Hand Semaphore Signalling
Semaphore Automatic Block
Semi-Automatic Electro-Pneumatic Distant Semaphore
Upper Quadrant Automatic Signal

f) Other Semaphore Terms
Back Light
Backing Signal
Banner Repeater
Display Board
Double Arm Semaphore/Double Arm Station Semaphore
Electric Semaphore
Equal Balanced Bracket Signal/Balanced Bracket Signal/Three Doll Balanced Bracket Signal/Two-Doll Balanced Bracket Signal Co-Actors
GRS Model 2A Semaphore*/GRS Model 2A Upper-Quadrant Signal*/
GRS Model 2A Lower-Quadrant*/GRS Model 2A Dwarf Semaphore*
Hall Style-K Upper Quadrant Semaphore*/Hall Lower-Quadrant Semaphore*
Hudson Type of Semaphore
Illuminated Semaphore
Lartigue Signal
Left-Handed Semaphores*
Miniature Semaphore Signal
Miniature Repeater Semaphore (Co-Acting)
Miniature Arm Signal/Miniature Semaphore Signal
Model 2A Upper Quadrant Semaphore*
Parabolic Semaphore Signal
Upper Left-Hand Quadrant Semaphore Signal
Repeater
Semaphore Position-Type Signal*
Single Arm Semaphore
Slotted-Post Semaphore
Slotted Post

Smash Board
Station Semaphore/Station Semaphore Signal
Style-B Signals*
U Q Pipe-Operated/Dwarf Signal

3B8 Partially-Lighted Signals: Signal Boards, Disc Signals & Other Signals

a) Signal Boards
1) Overarching Terms & Terms in Other Languages
General Note
Signal Board
Board
Board Signal
Form Signal
Klapbord
Pantella

2) Specific Board Terms
Mechanical Signal Board*
Perforated Board Signal
Pivoted Board/Pivoting Board Signal
Quarter-Rotating Chequer-Board/Chessboard
Revolving Board
Revolving Board & Lamps

b) Disc Signals
General Notes
Disc I, II, III, IV, V
1) Disc Signals Containing the Word Disc
Automatic Enclosed Disc Signal
Banjo
Banjo Signal*
Bracketed Disc
C.l. Pillar Disc
Compound Ground Disc
Disc/Disc Signal
Disc & Crossbar/Disc & Crossbar Signal/Disc-&-Crossbar Signal
Disk Signal
Double Disc/Double Disc Signal/Double-Disc Signal
Double Disc & Crossbar Signal
Dwarf Signal/Three-Position Dwarf/Two-Position Dwarf Signal
Enclosed Disc/Enclosed Disc Signal
Exposed Disc Clockwork Type Signal
Floodlit Ground Disc/Flood Lit Disc/Flood-Lit Disc
Gallows Type of Signal (Disc)
Ground Disc/Ground Disc Signal
Ground-Level Dwarf Signal
Half-Open Disc Signal
Hall’s*
Hall Disc*/Hall Disc Signal*/Hall’s Enclosed Disc*
Hall Signal*
Independent Disc
Mechanical Disc
Mechanical Revolving Disc Signal
Pattern Ground Disc
Power-Operated Disc
Revolving Disc Signal/Revolving Disc
Tommy/Tommy Dodd
U.Q. Power Worked Dwarf Signal
2) Banner Signals [Exposed Disc Forms Under the Banner Name]
Banner*
Banner Signals
Banner Box Signals
Banner Box Type (Ireland Signal)
Banner Box Type Signal
Banner Clockwork Type
Banner Repeater Signal
Banner Type Signal/Banner-Type Signal
Banner Type Train Order Signal
Box Type Train Order Signal
Clockwork Exposed Disc Signal
Clockwork Signal
Exposed Banner Clockwork Type Signal
Ireland Banner Box Type Signal
Revolving Banner Signal/Rotating Banner Signal
Top-of-Mast Exposed Banner Signal
c) Morphological-Related Terms
General Note
1) Switch Signals
Dodson Switch & Signal Lamp
Electric Switch Lamp/Electric-Light Switch Light
Electric Switch
Keosene Switch Lamp
Lamp, Switch; Electric
Oil-Burning Switch Lamps
Oil-Lamp
Oil-Lighted Switch Lamp
Oil Switch Lamp
Reflecting Switch Lamp/Reflex Switch Lamp/Reflex Lens Switch Lamp
Switch Dwarf Signal
Switch Indicator
Switch Lamp
Switch Light
Switch Signal
Switch Stands
2) Points Indicators
Catch Point Disc/Points Disc
Catch Point Indicator
Mechanical Points Indicator: Arrow Type; Disc Type
Arrow Type
Disc Type
Points Indicator
Points Indicator - Arrow Type

3) Route Indicators
   Mechanical Route Indicator
   Morse & Berry Type Route Indicator
   Moving Slide Type - Route Indicator

4) Other Morphological Signal Terms
   Clockwork Automatic Block Signal
   Clockwork Enclosed Disc Type Electric Automatic Signal
   Clockwork Signal Exposed Disc Form & Automatic Block Signal
   Gasset & Fisher Clockwork Exposed Banner Type of Automatic Block Signal
   Disc Shunt
   Disc Shunting
   Floodlit Disc Shunting Signal
   Home & Distant Banjo Type of Disc Signal

d) Other Signals
   1) Crossbar Signals
      Cross Bar & Lamp
      Crossbar Signal
      Double Discs & Cross Bar
      Flap Signal
      Tilting Crossbar Signal/Tilting (Crossbar) Signal

   2) Flag Signals
      Automatic Flagman
      Fantail Signal
      Flag
      Kite Signal
      Flag Signal
      General Note
      Pivoted Flag

   3) Lighted Signs & Boards
      General Note
      Caution Board

4) Track Indicators
   General Note
   Block Indicator
   Motor Car Indicator
   Switch Indicators
   Track Car Indicators
   Track Occupancy Indicators
   Track Indicators
   Track Side Warning Indicators
   Train Approach Indicators

5) Miscellaneous Signals
   Ball
   Ball Signal
   Basket Signal
   Gate Signal
   Ground Signal
   Highball Signal/High-Ball Signal
   Indicator Lantern
   Lamp
   Multiple-Ball Signal
   Pot Signal
   Smash/Smashboard Signal
   Tiltboard Signal
   Trip's Improved Railway Signal
   Two-Colour Oil Lamp

Notes
New Terms: Solomon 2003: All-Lighted Signals

Colorlight
Color Light
Color-Light Signaling
Multiple-Head Color-Light Signals
US&S Color-Lights
Safetymin (3-Light) Color-Light Signals
Color-Light Automatic Block Signals/Color-Light Block Signals
Color Light Interlocking & ABS Signal
GRS Color-Light
Horizontal Color-Light Signal
Single-Head Color-Light
Type-D Color-Light
Triangular Position-Color-Light
Raco Color-Light
Horizontally Oriented Color-Light Signal
Color-Light with Triangular Light Pattern
Triangular- Pattern Color-Light/Triangular- Pattern Color-Light Signal
3-Head Color-Light Signal
GRS Triangular Color-Light/GRS Triangular-Pattern Color-Light Signal

Position-Light System
Position Light/Position-Light
Dwarf Position Light

Single-Head US&S
Two-Head Searchlight Signal
Twin-Head Searchlight Signal
Twin Head Searchlight Signal

Right-Hand Searchlight
Long-Range Searchlight
Short-range Signal
Hall Searchlight

GRS Searchlight

Cab-Signaling
Cab Signal Indicator
Two-Aspect Continuous Inductive Cab Signal
Advance Cab Signal
Four-Aspect Cab Signal
ACSES (Advanced Civil Speed Enforcement System Cab Signal)
Two-Aspect Cab Signaling
Four-Aspect System [Cab]
Two-Aspect, Three-Aspect Cab Signal System
Four-Aspect Cab Signaling


Visual Semaphore Signals
Automatic Block Semaphore
Fixed Semaphore
Three-Position Slotted-Mast Semaphore
All-Electric Semaphore
Semaphore Position-Type Signals
Base-of-Mast Mechanism Semaphore
Top-of-Mast Mechanism Semaphore
3-Blade Semaphore/3-Blade U-Q Semaphore
2- & 3-Head Semaphore
L Q Block Semaphore
US&S Style-B L-Q Block Signal
Electropneumatic Semaphore
Twin-Arm L-Q Semaphore
Style-B Signal
U-Q Signal
Left-Handed Upper-Quadrant Semaphore
Upper-Quadrant Semaphore
Single-Arm U-Q Semaphore
3-Position U-Q Semaphore
Differences Between Index and Database:
All-lighted

Automatic Enclosed Disc Signal
Hall Disc Signal
Hall Disc
Enclosed Disc Signal
Hall’s Enclosed Disc
Hall’s Hall Signals
Mechanical Signal Board

AAR 1953
Pneumatic Power Signals

Part J:
Non-visible Signals
Tumble-Arm Semaphore

Differences Between Index and Database:
All-lighted

Colour-Light Signals Multi-Aspect-Vertical in Text but omitted from Index; included in this study
Electric Automatic Colour-Light Signals in Index but Signalling in Text; the latter is in Text and in this study.
Color-Light Type Signal (SR) in Index but () omitted from Text.
Searchlight Type Colour-Light Signals in Text joined by non-hyphen version; that is included in this study.
Searchlight Type of Single-lens Color Light in Index but Colour in Text.
Dwarft Searchlight Signal has Type not Signal in Text; that is the correct form.
Colorlight High Signal ... has Color Light in Text; that is also followed here.
Dwarf Colourlight Shunt Signal in Index has Shunting in Text; Index should be Shunting.
Side Light (Back Light) in Index but Text has Back only; this study has that form.
Flashing Signals (Signals) in Index but Flashing Lights in Text which is correct.
Position Signal Signal individual entry in Index but not in Text; this study included that entry.
Cab-Signalling joined by Cab-Signaling in Text but not in Index; this study has both.
Continuous Cab Signaling System in Index contrasts with Signal in Text; that is followed in this study.
Conductive Inductive Cab Signal in Index has Continuous Inductive Cab Signal in Text; Continuous is the correct word.
Four-Indication Cab Signal System in Text but omitted from Index; included in this study.

Differences Between Index and Text:
Partially-Lighted

Dwarf Type Signal in Text only; added in this study
I.Q Electro-Pneumatic Semaphore not in Text. Omitted in this study.
I.Q Signal Electric Operated duplicated in Index; on entry omitted,
Pneumatic Semaphore in Text added to this study.
Semaphore Left of Mast and -Right of Mast lack hyphens in Index but included in Text and in this study.
Three-Position Dwarf Signal in Index lacks Signal in Text; omitted in this study.
Pattern Ground without Disc in Index but added in Text; included here.
Banner Box Signal duplicated in Index; on entry omitted.

Banner Clockwork Signal in Text but not in Index. Included in this study.
Points Disc included in Text but not in Index; it is now added here.

Differences Between Parts F/H and Database:
All-litigated

The classifications of the modal studies present three main components:
Trackside, Cab and Dwarf. Dwarf signals are a main component in classification but they are very subordinate in the Database. Basic components are largely absent in the Database while various types of mechanisms (Color light, etc.) are in a dominant role. Some of the differences are explained by the nature of classifications in contrast to the database format.

Alphanumeric, Graphic and Geometric forms are major subdivisions in the Database but underplayed in classifications. Some terms in the classifications were coined by the compiler and serve as category designations but they are not found in the Database. Such terms include Colour-Light: Multiple lens; Color-Light: Searchlight lens and Symbol signals. The classifications include subdivisions of signals based on the appearance of the signal. This does not result in recognized names and hence are omitted in the database.

Partially-Lighted

Correlation between classification and the Database are substantial for some areas of Transportation-Markings (e.g., numerous marine and tcd forms). However, the problem of correlation for railroad signs is also present with railroad signals. International structures and organizations are limited for railroad aids, and the building up of an abstract structure for diverse terms in a taxonomy did not not mesh well with the structure of the database where there are many terms within a simple structure.

The Database has two major components: Semaphores and Signal Boards, Discs & Other Forms while the classifications have a structure of Trackside Signals- Semaphores/Signal Boards/Dwarf Signals & Rotating Signals/Dwarf Revolving Signals/Railway Signals-Single Forms, Lighted Signs. Dwarfs are very
important in classification but very subordinate in the Database. Semaphores in the classification are based on the character of blade and spectacle which resulted in only limited terms.

Some specific terms as well as category designations are omitted from the Database. These include pillar-disc, miniature graphic symbol indicators, and graphic symbols. The arrangement of single forms, lighted signs in classification contrasts with the lighted signs and boards of the Database.

3C Unlighted Visual Device
3C1 Unlighted Fixed Devices with Constant Messages

General Note
a) Location Signs
Location Signs
Corporation or Other Political Subdivision Signs
Mile Post Signs
Standard Right of Way Signs
Subdivision Signs
Tresspass Sign
Tresspass--Right of Way Sign/Tresspass-Bridge/Tresspass-Crossing Signs
Railroad Property - Tresspassing Forbidden Under Penalty
Danger Do Not Tresspass on the Railroad
Valuation Section Sign
b) Transportation Signs
1) Speed Control Signs
(a) Speed Control & Restriction Signs
GN I, II
Advance-Warning Sign/Advance Warning Sign
Reduce Speed Sign
Resume Speed Sign
Retro-Reflective (Road Traffic Type) PSR Sign
Speed Control Signs - Temporary & Permanent
Speed Limit - Permanent Sign-Speed Limit - Temporary Sign
Speed
Slow
Resume
Temporary Reduce, Slow & Resume Speed Signs
Reduce Speed Sign
Slow Sign
Resume Speed Sign
(b) UAR Speed Signals (=Signs)
Speed Restriction Signals
Start of Speed Restriction Signal
1) Station Signs

Station Name Signs

2) Location Signs

(a) Advance Location Signs

General Note
Railway Grade Crossing Signs
Drawbridge Signs
Tunnel Signs
Junction Signs
Rock Slide Signs
Snow Slide Signs
Station Signs

(b) Limit & Location Signs

General Note
Yard Limit Signs
Switching Limit Signs
Signal Territory Limit Signs
Station Location Signs
Derail Location Signs
Track Capacities Signs
Water Station Limit Signs
Fuel Station Limit Signs
Cinder Station Limit Signs
Blind Siding Signs
Cut Section Sign

(c) Territory Limits Signs

Territory Limit Signs
General Note
Begin CTC Sign/End CTC Sign
CTC
Begin
End
Begin Cab Signal/Territory/End Cab Signal Territory
Begin TCS Sign/End TCS Sign
End of Signal Territory
End of Block Sign/Block-Limit Sign
End of Track Circuit Sign
Automatic Block Signs
Start Automatic Block Signs
End Automatic Block Signs
Remote Control Signs
Begin Remote Control Signs
End Remote Control Signs
Beginning of Double Track Sign/End of Double Track
Sign/Double Track
Ends/Double Track Ends
Begin Rules .../End Rules ...
Approach Block Limit Sign/ABL Sign
c) Maintenance of Way Signs
   General Note
   Aline ment Sign or Markers
   Bridge Sign/Bridge Number Signs
   Curve & Elevation Signs
   Elevation Markers
   End of Shunt Sign
   Flanger Sign
   Maintenance Limits Sign
   Roadway Structures Sign
   Snowplow Sign
   Raise Snowplow Sign
   Lower Snowplow Sign
   Token Block Working Sign
d) Safety Signs
   General Note
   Electrical Hazard Sign
   Fire Hazard Sign
   Highway Grade Crossing Sign
   Barricade Sign
   Highway & Barricade Sign
   Power-Operated Switch Sign
   Restricted Clearance Sign
   Warning No Clearance for Man on Side or Top of Car Sign
   No Clearance Sign*
e) Marks & Markers
   Markers
   Marker (Board)
   Alinement Marker
   Auxiliary Marker
   “C” Markers/“S” Markers
   General Note
   “C” Marker
   “S” Marker
   Clearance Mark
   Diamond Shaped Marker
   Distance Markers
   Elevation Markers
   Fixed Markers
   Landmark
   Limeside Marker
   Marks & Markers for Japan
      General Note
      Repeater Signal
      Train Stop Sign Marker/Car Stop Marker
      Shunting Signal Marker & Shunting Sign Marker
   Switch Target
   Sudden Release Shunting Sign Mark
   Trolley Wire Dead Section Indicator
   Trolley Wire Electric Source Sign Marker
   Route Electric Source Sign Marker
   Once Stop Sign Marker
   Clearance Post
   Whistle Sign Marker
   Buffer Stop Indicator
   Marks:
      Route Identification Mark
      Slow Speed Release Mark
      Signal Aspect Confirmation Position Mark
      Power Drive Mark
      Coasting Mark -- AC & DC
      Signal Alarm Mark
      Station Approach Mark
      Tablet Carrying Mark
      Train Stop Position Mark
      Electric Train Section Mark
      Monument Marker
      Reflective Marker Board
High Speed Marker Board
Selection Entrance Marker
Signal Marker Board
Spring Switch Marker/Spring Switch Sign
Wayside Marker
Wing Markers
f) Boards & Posts
General Note
Advance Warning Board
Baak
Caution Board
Countdown Marker Board
Flag Board/Metal Flags
Indicating Board
Indication Board
Lineside Board
Marker Board
Mechanical Signal Board*
Mile Board
Nameboard
Notice-Board
Number Board
Order Board
Permanent Speed Restriction Board/Permanent Speed-Restriction Board
Permanent Warning Board
"R" Board/"Z" Board
Radio Channel Change Board/Radio Channel Indicator
ReflectORIZED Distant Board/Distant Board/Fixed Board
Resume-Speed Board (Temporary)/Resume-Speed Board (Permanent)
Shunting Limits Board
Signal Board
Slow Board
Speed Board
Start of Section Board/End of Section Board
End of Section Marker Board
Sighting Board
Signal Warning Board
Starting Signal Notice Board
Station Limit Board
Station-Name Board
Train Clear of Passing Loop Indicator/Advanced Starting Loop Clear Signal
AWS Cancelling Indicator
End of Token Section Proceed if Platform Clear Board
Temporary Warning Board
Temporary Outer Speed Board/Temporary Inner Speed Board/All Trains Stop Board
Train Order Board
Terminating Board
Stop Board
Temporary Speed-Reduction Board
Warning Board
Watering Board
Whistle Board
Yard Limit Board
“Y” Board
Block Posts
Clearance Post
Curve & Elevation (Post)
Elevation Posts/Full Elevation Posts/Zero Elevation Posts
Gradient Posts
Marker Post*
Mile Posts
Permanent Whistle Post/Temporary Whistle Post
Property Line Posts/Property Posts
Section Posts/Sub-section Posts
Signposts
Whistle Posts
g) Plates & Flags
   “A” Plate
   “F” Plate/NF Plate
   Identification Plate
   Identifying Plate
   Track Circuits
   Fireman’s Call Plunger Plate
   Telephone Plate
   Identity Plate
   Letter Plate
   Marker Plate
   Name Plate/Plate, Name
   Plate, Number/Number Plate
   Signal Background Plate
   Signal Identification Plate
   Signal Number Plate
   Station Nameplate
   “T” Plate
   Flags
      General Note
      Flags*
      Flagboards
      Metal Flags
      Flag Signals*
      Blue Flag Devices
      Power Blue Flag
      Blue Flag Detail
      Derail Blue Flag
      Chock Flag

h) Other Devices
   1) Overarching Terms
      General Note
      Trackside Signs
      Lineside Signs
      Fixed Signs
   2) Blue Flags
      General Note
      Derail
      Stop
      Stop (Portable)
      Camp Cars
      Alto
      Danger Men Working on This Truck
      Danger Tank Car Connected
      Stop Tank Car Connected
   3) Electric Traction Signs
   4) Miscellaneous Signs
      Approach Signs
      Chequered Signs
      Number Plate
      Signal-Note-In-Use Sign
      Revolving Stop Sign*
      Stop Sign*

3C2 Targets
   General Notes I, II, III, Iv
   a) Overarching Terms
      Target
      Switch Stand Target
      Switch Target
      Illuminated Switch Target
   b) Morphological-related Terms
      General Note
   1) Shape Targets
      General Note
      Arrow-shaped Vanes (9 Forms)
      Obround-shaped Vanes (3 Forms)
Rectangle-shaped Vanes (4 Forms)
Oblround Vanes (4 Forms)
Other Shapes (6 Forms)

2) Color & Position Targets
   General Note
3) Terms Relating to Railroad Function
   Blind Target
   Main Track Switch Target
   Siding Yard Switch Target
   Siding Derail Target/Siding Derail Target
   Yard Switch Stand

c) Other Targets
   Day Targets
   Main Line Switch Signals
   Target Stands
   Switch Target Reflector Type/Reflectorized Switch Target/Reflector Target
   Targets Whose Titles refer to Height:
   Low Target
   Low Revolving Target
   Intermediate Target
   High Switch Target
   High Target

d) Switch Stands
   General Note
   Automatic Safety Lock Switch Stand
   Automatic Safety Switch Stand
   Automatic Stand
   Automatic Switch Stands
   Column-Throw Stand
   Derail Switch Stand/Derail Stand
   Double Stand
   Dwarf Stand
   Enclosed Geared Type Parallel Throw Switch Stand
   Gearless Switch Stand

Ground Throw Stand
Ground-Throw Switch Stand/Ground Throw Switch Stand
Hasty Triple Stand
High Banner Two Tie Switch Stand/Low Banner Two Tie Switch Stand
Hub Safety Automatic Switch Stand
Intermediate Stand
Low Stand
Low Switch Stand
Main Line Safety Switch Stand/Mainline Safety Switch Stand
Main Line Switch Stand
Parallel-Throw Switch Stand
Stone Drum Switch Stand
Pony Stand
Positive-Action Switch Stand
Steelton Switch Stand
Switch Stand, Parallel Throw
Three-In-One Automatic Switch Stand

Note

New Terms
Flag, Solomon 2003
Flag Signal, Solomon
No Clearance Sign, CRIP 1977
Marker Post, Solomon
Mechanical Signal Board, Solomon
Revolving Stop Sign, Solomon
Stop Sign, Solomon

Differences Between Database Indexes & Text: Signs
Corporate in Index but Corporation in Text; Index changed to Corporation
Temporary Reduce ... Both Index and Text altered.
UAR entry garbled in Index; now changed to conform to source.
Line Speed Indicator duplicated in Text; delete one entry.
Line Indicator in Index: delete.
Speed Indicator: add to both Index and Text. [New Term in a sense]
End of Track Circuit Sign in text: add to Index
Warning No Clearance: add to text
Nameboard: two words in text; change to one
Resume-speed ... : add to text
Speed Restriction Sign: add to index
Advance ... To be separate entry in both Index and Text
Block Posts in text; index changed to two words.
Stop Tank Car Connected Sign: add to index

Note: Targets

Targets are unlighted aids consisting of one or two vanes. Often times they are
joined to a switch lamp. Targets are in themselves an unlighted signal type aid (it has more than one message. Switch lamps are partly-lighted whether a target is
attached or not. The Classifications treated Targets as both unlighted and partly-
lighted aid. The Database placed unlighted fixed aids together then joined Targets
to a composite group consisting of unlighted signals, acoustical signals, radio
signals. The topic of Target needs to be reformulated with the bulk of
classification and database within unlighted aids. With Switch lamps as partly-
lighted and cross-references between the two subjects. That reformulation is
followed at least some extent in this study. The core materials of targets are
similar in the various studies though notably different in configurations. A third
element is the Switch stand. These are not included in the classifications. They are
included in the Database since the switch stand is the structure to which target and
or switch lamp is attached. Occasionally the term stand becomes an element of the
name of the aid.

Difference Between Index and Text of Database:

Hub Safety Automatic Switch Stand is listed in text but not in index; it is now
added.

Differences Between Classifications & Database:

There has been considerable trouble in correlating signs in classifications
with the treatment in the Database. The following notes are an early attempt to
come to grips with that problem. They are perhaps thinking out loud, or stream of
consciousness more than notes that can be used in the study.

DB and E/H/B: very difficult to correlate both categories of signs and often
specific forms of signs. Some of the problem may be the fact that European signs
are often speed-related and manifest many forms. While US signs are much less
often speed in nature. Though that problem is found with both DB and
classifications. The Classifications themselves may be part of the problem. The
variations give speed forms but no non-speed sign forms. The Classifications
attempt but only attempted to bring together diverse types in coherent groups. But
those attempts are often flawed and do not cohere with group names in the DB in
not a few instances. At times it is not all that easy to say what a classification
category consists of. And even more often it is not that easy to correlate DB
categories with Classification categories.

Signals are nearly universal with various classifications and categorizations.
One can build up a framework with the many forms of signals and their existing.
But signs and related devices are less universal and manifest considerable vari-
ation. I may have erred in trying to construct an coherent and overarching
system in which to place signs. I should have looked for the structure in whatever
signs presented themselves and sought the order there even if partial and
uncertain. A case in point: the Classifications speak of Sign and Signal ID &
Signal Function Signs. But in railway practice the common term would have been
plate. Plates rather than signs denote posting of symbolic messages on signal
masts. The alternate term is one of a number of plate-type aids and forms a
segment in itself. Plate needs to become part of the Classification. And the use of
sign needs to be dropped.

In summary,

Database and Classification groups can only be partially correlated. Morphology/physical terms are often run together in both Database and Classification with too little sorting out and explanation of how terms relate and to what degree.

No general international categories though some regional tendencies may occasionally exist.

DB is intended to expand and draw out entries into a broad comprehensive panorama. While the Classification pulls distinct entries into groupings which are subsumed into further groups. Taxonomy and Holarchy undergird that exercise. This study as a combination classification/indexes bridges the two approaches.

Part H, 2nd ed, partly improves the degree of correlation.

Which are the worst cases of non-correlation in the DB and Class.?

Correlating Parts F and H (also Parts B and J):
Approach... = Advance Location?
(Station, Yard, Crossing, Bridge & Whistle Posts
(H has 5320)

5311 Station, Yard, Track
& Political Units
(H has 5321)

5312 Location (= Whistle Post)
(H has 5322)

5313 Sign & Signal ID**
& Signal Function
(H has 5323)

5314 Stop Boards
(H has 5324)

5315 Section & Block
(H has 5325)

5316 Electric Traction Signs
(H has 5326)

5317 Limit & Restriction Signs
(H does not have this)

5327 (H) Safety Signs
= Safety Signs

5328 (H) Maintenance of Way Signs
= Maintenance of Way Signs

** Plate should have been used not Sign. Non-signal aids in railway practice lack overall structure (even more than signals). Earlier T-M attempted to build a framework for various disconnected pieces. However, that framework should have drawn its shape from the various bits and pieces of signs and organization rather than impose an artificial structure on the fragments. A good example is applying sign to what should have been termed plates.
3D Acoustical & Radio Signals

3D1 Acoustical Signals

a) General Note & Overarching Terms
   Acoustic or Audible Signal
   Audible Danger Signal
   Audible Signalling Devices
   Audible Warning Systems

b) Explosive Signals
   Audible Signal [*Explosive; possible OA term]
   Banger
   Clayton's Automatic Detonator Placer
   Clayton Fogging Machine
   Detonating Fog Signal
   Detonating Signal
   Detonator
   Detonator Machine
   Detonator Placer
   Detonator Signal
   Duplex Fog Signal
   Fog
   Fog Detonator
   Fog Repeator
   Fog Signal [Also possible OA]
   Fogger
   Fogging Machine
   Torpedo
   Torpedo Signal

c) Level/Grade Crossing Sound Signals
   Audible Automatic Warning Devices
   Audible Warning Devices*
   Audible-Pedestrian Crossing
   Automatic Bell
   Bell
   Bell, Gong

Bell, Single Stroke
Bell, Vibrating
Crossing Alarms
Crossing Bells
Double Gong Highway Crossing Bell
Electrically Actuated Bell*
Electronic Bell/Electronic Warning Bell
Enclosed Crossing Bell
   Iron Case, Enclosed Crossing Bell
   Enclosed Water Tight, Low & High Voltage Highway Crossing Bell
Enclosed Type Gong
Grade Crossing Alarm
Highway Crossing Bell/Bell, Highway Crossing
Highway Crossing Bell-Electronic/Highway Crossing Bell-Electro-Mechanical
Highway Crossing Signal
Locomotive Type Crossing Bell
Motor Driven Locomotive Type Bell*
Pedestrian Crossing Bells*
Railway Crossing Bells*
Skeleton Bell
Sound-Bell/Sound Bell
Vibrating Bell*
Warning Bell*
Whistle Signal*

d) Cab & Train Control Sound Signals
   General Note
   Cab Signal, Audible
   Cab Signal-Sound
   Audible Cab Signal*/Audible Cab-Signal*
   Audible Cab Signalling/Audible-Cab Signalling
   Audible Cab Indicator/Indicator, Cab; Audible
   Audible Frequency Cab Signal*
   Audible Indicator
   Audible Signal
Bell & Siren Unit
Cab Alarm
Cab Indicator
Cab Whistle
Code Continuous Cab Signal with Whistle & Acknowledger
Indicator, Cab; Audible
Klaxon
Reliostop
Warning Hooter
Warning Whistle
Whistle Signals

e) Other Sound Signals
  All-Weather Fuzees
  Bell [Switch Indicator]
  Fog Gong
  Fuzees
  Non-optical Signals [=Fog Signalling Devices]
  Rail Sound Signals
  Siding Bell Box*
  Track Crew Warning Signals [Sound dimension]
  Track Indicators [Sound dimension present]

3D2 Radio Signals

Note: Database presents a listing of terms without sub-divisions. This coverage divides terms into overarching, radio token, and other forms. This creates a diverse grouping for limited terms yet that arrangement is necessary. ETCS (European Train Control System) is considered in Systems. But several terms are signal or signal-related in nature.

a) Overarching Terms
   Electronic Signalling
   Radio Signalling
   Radio/Electronic Token

   Electronic Token
   Electronic Token System
   Radio-Based Token System
   Radio Block
   Radio Electronic Token Block (RETB)
   Radio Electronic Token System
   Radio Token Block
   Radio Token Block System
   Radio Token Equipment
   Radio Tokenless Block
   RETB System
   Token Block

b) Satellite Systems
   GPS/NAVSTAR GPS/GPS Technology
   Sat-Guidance System/Sat-Based Guidance System

c) Other Radio Signals
   Beacon/Euro-balise Beacon
   Euro-Radio
   Radio-Shunting
   Raliophone
   Wireless Signal System

Note

The Database placed fixed unlighted forms together, and then placed signal forms whether visual, acoustical or radio together. While a case might be made for that approach it can also be viewed as idiosyncratic. Targets are now placed with other visual forms and the small sections of acoustical and radio are placed together in an uneasy alliance of not-visual forms.

New Terms:

Audible Warning Devices, Solomon 2003
Electrically Actuated Bell
Warning Bell

Vibrating Bell, ARSPAP-D

Audible Frequency Cab Signal, Bisset 1990

Audible Cab Signal, Ellis 1966

Audible Cab-Signal, Nock 1978

Siding Bell Box, Hall Sign & Signal

Pedestrian Crossing Bell, WRRS
Motor Driven Locomotive Type Bell

Track Crew Warning Signals, Part H

Rail Sound Signals, Part J
Railway Crossing Bells

Whistle Signal, UAR

Note

The Database placed all non level/grade crossing and cab sound signals together in a heading of Explosive Signals. However, some forms were not of an explosive nature, those signals are now placed in an Other Forms category.

Differences between Index and Text of Database

Duplex in index has a fuller name in text: Duplex Fog Signal.

Differences between Parts F and H and Database:

There are few sound terms in Parts F and H. Part H includes Track Crew Warning Signals which is absent from the Database.

3E Level/Grade Crossings Signs, Signals, Markers & Other Forms

General Note

3E1 Integrative LC/GC Terms
Automatic Safety Installations for Level Crossings
Automatic Controlled Level-Crossing Protection
Bells
Flashing Lights
Automatic Level Crossing Protection
Automatic Signal Devices
Automatic Warning System
Conventional Track Circuit-Operated Level Crossing Approach
Warning System
Crossing Protection
Crossing Warning Device
Four-Quadrant Grade-Crossing Gates*
Grade Crossing Warning Systems
Highway Crossing Protection
Highway-Railroad Crossing Protection
Level Crossing (Review)
MWL Crossing
Highway Crossing Protection
Automatic Bells
Flashlight
Gates
Wig-wag
Highway Crossing Signal
Crossing Sign
Locomotive Type of Bell
Wigwag Signal
Highway Crossing Warnings & Controls
Cantilever
Gates
Lamps
Highway Grade Crossing
  Signs
  Signals
  System
  Warning Device
Power-Worked MCB
  Audible Warning Devices
  Traffic Lights
  Barriers
Railway Crossing Safety Aids*
  Seismic Based Train Actuated Approach Warning at Level Crossing
  The Orion - 300 Level Crossing Approach Warning Systems

3E2 Lighted LC/GC Signals
  Advance Warning Signal (Highway Crossing)
  AGA Highway Danger Signal
  Automatic Flashing Lights*
  Barrow Crossing Warning Indicator
  Cantilever Signal
  Color-Light Highway Signal
  Crossing Signal
  Crossing System*
  Flashing-Lights*
  Flashing Lights, Automatic Gates & Ringing Bell*
  Flashing-Light Crossing*
  Flashing Light Signals/Flash-Light Signal*
  Flashing Light Type
  Flashing Signals & Crossing Gates*
  Grade-Crossing Flashers & Crossbucks*
  Grade Crossing Signal
  Grade-Crossing Protection*
  Grade-Crossing Warning*
  Highway Approach Signal
  Highway Crossing Signal
  Hoeschon Crossing Signal
  Miniature Warning Lights
  Miniature R/G Warning Lights
  Railroad/Highway Grade-Crossing Protection*
  Railroad-Railroad Grade Crossing Signal
  Railway Grade-Crossing Signals*
  Highway Signals
  Level Crossing-Flash Light Signals
  Level Crossing Signals
  Level Crossing with Flashing Light Signals
  Level Crossing with Signal System
  Signals for Tramway Level Crossing
  Pre-Warning Signals
  Tram Crossing Signals
  Visible Warning Signals
  Visual Grade-Crossing Warning*
  Wig Wag
  Wig Wag Crossing Signal
  Wig Wag Grade-Crossing Protection*
  Wig Wag Systems*
  Wig Wag Type

3E3 Barriers & Gates
  a) Barriers, Full Gates, & Gates
     Automatic Gates
     Automatic Lifting Barriers
     Barriers
     Barrier Type Protection
     Boom Gates
     CCTV Monitored Remote Barrier Crossing
     Crossing Gates
     Electric Operated Lifting Barriers
     Electro-Hydraulic Pedestrian Barrier
     Full Barrier
     Grade-Crossing Gates*
Level Automatic Barriers
Level Automatic Open Crossing
Level Crossing Barrier
Level Crossing Gates
Level Crossing with Automatic Barrier
Level Crossing with Full Barrier
Lifting Barrier
Manned Gated Crossing
Manned Barriers
Manned Barriers Crossing
   MCB/Local
   MCB/Remote
   MCB/CCTV
   TOB
Manually Controlled Barriers
   MCB/CCTV
On Call Barrier Crossing
Short-Arm Gates
TMO (Trainman Operated [Barrier])
Trainman-Operated Barrier (TOB)
Wicket Gate
b) Half Barriers & Gates
   AHB Crossings
   Automatic Half Arm Barrier Installation
   Automatic Half Barrier
   Automatic Half Barrier Crossing (AHB)
   Automatic Half Barrier Locally Monitored (ABCL)
   Automatic Level Crossing & Half Gate
   Double Half Barrier & Full Barrier Crossing
   Half Barrier: Double Half Barriers & Single Half Barrier
   Level Automatic Half Barriers
   Level Crossing Half Barriers

3E4 Sound Signals
   Audible-Pedestrian Crossings
   Audible Warning Devices*

Bell, Gong, Audible Warning
Crossing Alarms
Double Gong Highway Bell
Electrically Actuated Bell*
Electronic Warning Bells
Enclosed Crossing Bells
Enclosed Type Gong
Grade Crossing Alarm
Locomotive Type of Crossing Bell
Highway Crossing Alarm
Highway Crossing Bell
Highway Crossing Bell-Electronic
Highway Grade Crossing Warning Device
Hoeschen Bell System
Rail Sound Signals*
Railway Crossing Bells*
Skeleton Bell
Vibrating Bell
Warning Bell*

3E5 Signs
   Auxiliary Sign
   Close Up Road Warning Sign [& with Flashinglight]
   Crossing Signs
   Crossbucks*
   Crossbucks (Crossbones)*
   Crossbuck Signs
   Distant Road Warning Sign
   Gates Not Working Sign
   Grade-Crossing Sign*/Grade Crossing Sign*
   Highway & Barricades Sign
   Highway Crossing Sign
   Highway Grade Crossing Sign
   Illuminated Sign
   Level Crossing Halt Board
   Level Crossing - Sign Board
Railroad Crossing Sign: Highway, At the Crossing, Advance Warning
Sign (& with Flashing Light)
Railroad Grade Crossing Targets
Road Signs at Level Crossing
Reflector Buttons
Revolving Stop Sign* / Revolving-Stop Sign*
St Andrew’s Cross
St George’s Advance Warning Board
Second Train Coming Sign
Signs (Crossing)
Warning Signs for Level Crossing
3E6 Open Crossing
Accommodation Crossing
Automatic Open Crossing Locally Monitored (AOCL)
Automatic Open Crossing Remotely Monitored (AOCR)
Automatic Open Level Crossing
Open Crossing (OC)
Open Crossing with No Controls

Notes

New Terms

Flashing-Light Crossing Signal, Solomon 2003
Crossing System, Solomon
Automatic Flashing Lights, Solomon
Grade-Crossing Warning, Solomon
Grade-Crossing Protection, Solomon
Flashing-Lights, Solomon
Flashing-Lights Crossing, Solomon
Flashing Signals & Crossing Gates, Solomon
Flashing Lights, Automatic Gates & Ringing Bell, Solomon
Four-Quadrant Grade-Crossing Gates, Solomon
Visual Grade-Crossing Warning, Solomon
Wigwag Signal, Solomon

Grade Crossing Flashers & Crossbucks
Grade-Crossing Gates, Solomon
Audible Warning Devices, Solomon
Warning Bell, Solomon
Bell, Solomon
Electrically Actuated Bell, Solomon
Crossbucks, Solomon
Crossbucks (Crossbones), Solomon
Grade-Crossing Sign, Solomon
Grade Crossing Sign, Solomon
Railway Grade Crossing Signs
Railway Grade Crossing System, Solomon
Revolving Stop Sign, Solomon
Revolving-Stop Sign, Solomon

Rail Sound Signals, Part J
Railway Crossing Safety Aids, Part J

Differences Between Index and Text of Database

Automatic Signal Devices in text; omitted from index; add
Conventional Track Circuit ... Index omits Approach before Warning but
included in text; add to index
AGA Two-color Highway Danger Signal in text; add to index.
Locomotive Type Crossing Bell in text; add to index
Level Crossing in index: review (no source in text for term)
Signals for Tramway Level Crossing: review in M & H

Differences Between Parts F and H and Database:

Neither Part F or Part H gives substantial attention to Level/Grade Crossing
devices. Part H includes LC/GC Signals [Crossing Bell]. While Part F omits this
category. TCD studies also include this topic which possibly reduces the need for coverage here. However, the Database has given considerable attention to the topic.

3F Staff & Ticket, Tablet, Token, Train Order & Time interval Signals

3F1 Staff
- Absolute Staff System/Absolute Staff Instrument
- Annett’s Key
- Automatic Electric Staff Instruments
- Automatic Staff Exchanging Apparatus/Automatic Exchange Equipment/Automatic Tablet Exchange Equipment
- Electric Staff
- Electric Train Staff
- Electric Staff Instrument
- Electric Staff Block System
- Electric Staff System
- Electric Staff Working
- Electric Train Staff & Ticket System
- Electric Train Staff System
- Intermediate Siding Junction Instrument
- Large Electric Staff
- O.E.S. Staff
- One Train Working
- Permissive Staff/Permissive Attachment
- Pusher Attachment
- Staff
- Staff & Ticket Working
- Staff Catcher
- Staff Crane/Staff, Crane
- Staff Manual Block System
- Staff Pouches
- Staff System
- Subsidiary Electric Staff Working
- Train Staff/Train-Staff

3F2 Staff & Tickets
- Paper Ticket Method
- Staff & Ticket/Staff-&-Ticket
- Staff & Ticket System
- Ticket System
- Train Staff & Ticket System
- Train Staff Ticket
- Wooden Train Staff & Paper Ticket Method

3F3 Tokens
- Automatic Token Exchange
- Ball Token/Ball-Token
- Ball Token Type
- Electric Token
- Electric Token Apparatus
- Electric Token Instrument
- Electric Token Methods
- Electric Token System
- Electric Token System/Electric Token Block
- Key Token I, II
- Key Token Block System
- Key Token Transfer System
- Key Token Balancer
- Key Token Instrument
- Key Token System
- Neale’s Ball Token Instrument
- Neale’s Single Line Combined Ball Token & Block Instrument
- No Signalman Remote Key Token Working/No-Signalman Remote Key Token Working
- No Signalman Token Block
- One Train Working
Signalman-to-Signalman Token Working
Signalman to Automatic Operated Token Working
Single Line Token Instrument
Token
Token Block System
Token Signalling
Electric Single-Line Token System
Token Type Block Instrument
Token-Forms
Token Forms-II
Main Section (Unidirectional) Token
Engineering Token
Test Token
Special Token
Van Schoor Train Token System

3F4 Tablet & Tablet & Tokens
Ball & Tablet Token Instrument
Electric Tablet/Electric Train Token
Electric Tablet Instrument
Electric Tablet System
Electric Train Tablet Method
Single Line Tablet
Tablet
Tablet Block Systems
Tablet Block Train Operation
Tablet Instrument
Tablet System
Tablet System of Working
Tyer’s Key Token Instrument/Tyer’s Electric Train Tablet
Tyer’s Electric Train Tablet System
Tyer’s #7 Tablet Instrument
#6 Tyer’s Tablet Machine
Tyer’s Tablet Instrument
Tyer’s Electric Tablet System/Tyer’s Tablet System
Tyer’s No. 12B Key Token Instrument

3F5 Tokenless Block Working
General Note
Scottish Region Tokenless Block
Tokenless Block
Tokenless Block Equipment
Tokenless Block Working/Tokenless Block System
Tokenless Block Instrument
Tokenless Block Working (Paper Ticket)

3F6 Train Order
Balloon Train Order
Banner Type Train Order Signal
Boot-Jack Type Train Order Signal
Box Type Train Order
Center-Pivoted, 2-Position Train Order Signal
Double-Arm UQ Train Order Signal
Electric Enclosed Disc Train Order Signal
Electro-Mechanical Train Order Signal
Nineve Order
Slow Order
Telegraph Train-Order Signal
Telephone Train Order Sign
Thirty One Order
Timetable & Train Order (T & O)
Train Order Boards
Train Order/Train-Order
Train-Order Lineside Signal
Train Order Signal/Train-Order Signal
Train Order Signals of the Color Light Type
Train-Order System
Train-Order Working
Written Train Orders
Yarrington Type of Train Order Signal

3F7 Time Interval
Telegraph Block or Time-Interval System
Time Interval System/Time Interval-System
Time Interval Method
Time Interval/Time-Interval
Time Interval System of Working/Time-Interval System of Safeworking
Time Systems

3F8 Other Devices
Direct Traffic Control (DTC)
Space Interval Method
Telegraph & Ticket Method
Telegraph Message System
Telegraphic Order Method of Train Working
Telegraphic Orders
Ticket & Section Order System
Time-Code System
Timetables/Time-Tables
Time-Table Operation/Timetable Operations*
Timetable System*
Train Warrant Control (TWC)

Notes

New Terms
Timetable Operations, Solomon 2003
Timetable System, Solomon 2003
Tyers No. 12B Key Token Instrument, Kenya Railways 1982

Differences Between Index and Text

Direct Traffic Control (DTC) in text but omitted in index; now added.
Space Interval-Metho lacks hyphen in text.
Automatic Tablet Exchange Equipment lacks last work in text.
Train Staff Ticket in text only; now added to index.
Train Staff System/Train-Staff System duplicated in index; now deleted.
Ball Token Type mislocated in text.

Neale’s Single Line ... in complete in text.
Tokenless Block Equipment not in index; now added.
Tyer’s Electric Train Tablet System listed in index but not in text. It needs to be added to text. Note: A Century ... 1954 adds a hyphen.
Tyer’s Key Token Instrument/Tyer’s Electric Train Tablet in text not in index; it is now added.
Tyer’s Patent #7 Tablet Instrument omits “Patent” from both index and text.

Differences Between Parts F & H and Database:

Part F omits all of these devices from the classification. They are treated in an Appendix.

Part H includes basic terms of Staff, Tickets, Tokens, Tablets under the heading of Moveable Signals in the variant classification.
CHAPTER FOUR

AERO NAVAIIDS

4A Overarching Terms: General, Visual & Lighted Terms

4A1 General Terms for All Aero Navigation Aids

a) Primary Terms
- General Note
- Aero Aids*
- Aero Safety Aids*
- Aero Visual Aids*
- Aeronautical Navigation Aids
- Nav aids
- Navigation Aids
- Navigational Aids/Navigational Aids (Navaid)*
- Navaid Systems
- Navigation Aids Systems
- Navigational System*
- Aids
- Aids to Air Navigation
- Aids to Navigation
- Air Nav aids
- Air Navigation Aids
- Air Navigation Aids
- Visual Aero Aids*

b) Specialized Terms
- Aeronautical Aids
- Aids to Aerial Navigation
- Air Navigation Systems
- Air Navigation & Obstruction Lighting
- Aircraft Landing Aids*
- Approach & Runway Light System
- Electronic & Visual Air Navigational Aids (Navaids)
- Ground Aids to a Contact Flight
- Ground-Based Navigation Aids

4A2 Visual Aids

- General Note
- Aeronautilical Lighting & Other Airport Visual Aids
- Airport Visual Aids/Airport Visual-Aids Systems
- Airport Visual Navigational Aids Systems
- All-Weather Visual Aids
- Aviation Lighting
- Ground Visual Aids
- Landing Aerodrome & Airway Lighting
- Visual Aids
- Visual Aids for Airports
- Visual Aids to Air Navigation
- Visual Aids Systems
- Visual Air Navigational Aids
- Visual Ground Aids
- Visual Landing Aids
- Visual Landmarks
- Visual Nav aids
- Visual Signals

4A3 Sub-Overarching Terms

- General Note
- AGA= Aerodrome Ground Aids
- Approach & Landing System
- Approach & Navigation Lights
- Approach & Runway Lighting/Approach & Runway Lighting Systems

Landing Aids to Navigation*
Landing & Navigation Aids
Mobile Airfield Lighting Systems
Navigation Systems
National Airspace System (NAS) Ground-to-Air (G/A) Systems
[landing sub-element]*
Portable Heliport Lighting Systems
Radio & Navigation Aids Systems
Temporary Airfield Lighting
Visual Aids for Approach & Landing
Approach & Threshold High Intensity Unidirectional Sequence-Flashing Lights
Approach, Threshold, & Runway Lights & Runway Markings
Approach, Threshold, Runway End Elevated High-Intensity Light
Approach/Threshold/Runway End Elevated Light
Approach/Threshold/Runway High Intensity Unidirectional Elevated Light
Approach/Threshold/Runway End Inset Light
Medium Intensity Approach, Threshold, Runway Edge Lighting
Miscellaneous Visual Approach Aids & Airport Beacons
Semi-Flush Approach & Threshold Lights

4A4 Overarching Terms for Lighted Aero Navigation Aids

a) Light & Lighting Aids
   General Note
   Light
   Light System
   Lighted Aids for Air Navigation
   Lighted Aids
   Lighting
   Lighting Aids
   Lighting Systems

b) Airfield & Airport Light/Lighting
   Aerial Lighting*
   Aero Lights*
   Aerodrome Lighting Systems
   Aeronautical Ground Lights
   Aeronautical Ground Lighting
   Air Lights
   Airfield Lights
   Airfield Ground Lighting
   Airfield Lighting
   Airfield Lighting Systems
   Airport & Air Navigational Lighting & Marking Aids
   Airport Ground Lighting Equipment
   Airport Lights

Airport Light Products
Airport Lighting Equipment
Aviation Ground & Seadrome Lighting
Aviation Ground Lighting
Aviation Lighting
Aviation Lighting Equipment
Aviation Lighting Systems
Field-Lighting for Airports
Fixed Lights
Ground Lighting
Ground Lighting Aids
Ground Lighting to Aid Navigation
Ground-Positioning Lighting
International Lighting Systems*
Landing Lights
Lighting & Marking System
Lighting/Marking/Lighting & Marking
Marking & Lighting/Marking & Light Systems
Navigation Lighting
Night Landing & Approach Aids*
Passive Airport Lighting
Powered Lighting Systems
Signal Lights
Signal Light Equipment
Systems of Lights
Visual Traffic Control Aids

4B Beacons & Obstruction Lighting
General Note

4B1 Overarching Terms
Beacon
Beacon Aids*
General Note I, II
Aerodrome Beacon
Aeronautical Light Beacon
Air Beacon
Aviation Beacon
Beacon, High Intensity
Beacon Light
Light Beacon

4B2 Physical Apparatus

a) Method of Operation-Related Terms
   - Airport 26" Rotating Beacon
   - Flashing Beacons
   - Oscillating Beacon
   - Revolving Beacon
   - Rotating Beacon
   - Rotating Beacon for Small Airports
   - Rotating Electric Beacon
   - Rotating Light Beacon
   - Rotating Lights*

b) Dimension-Related Terms
   - General Note
   - 10-Inch Rotating Beacon
   - 18-Inch Beacon
   - 24-Inch Airway Beacon
   - 24-Inch Beacon/Twenty-Four-Inch Beacon/24-Inch-Diameter Beacon/
     Twenty-Four-Inch Double-End Rotating Beacon
   - 24-Inch Dome/24-Inch Double End/36-Inch Double End/24-Inch
     Single End
   - Rotating 24-Inch Beacon
   - Beacon, 36-Inch, Double-End Type
   - Beacon, 36-Inch Rotating Beacon
   - CAA-291 36-Inch Rotating Beacon
   - Four-Beam 24-Inch Beacon
   - 36-Inch Beacon
   - 36-Inch Double End, Rotating Beacon/36-Inch Double-End
     Rotating Beacon
   - 36" Rotating Beacon
   - 36-Inch Revolving Beacon
   - Thirty-Six-Inch Spherical Rotating Beacon

DCB 36-Inch Rotating Beacon/DCB Rotating Beacon/DCB
Rotating-10 Beacon

4B3 Morphological Terms

a) Airport Beacons
   - 1) Airfield & Airport Beacons
      - General Note
      - Aerodrome Identification Beacon
      - Aeronautical Beacon Light
      - Airfield Beacon
      - Airport/Heliport Beacon
      - Airport Identification Beacon
      - Airport (Land) Beacon/Airport (Water) Beacon
      - Alternating Green/White Beacon/Alternating Yellow/White
        Beacon
      - Military Airport Beacon* 
   
   - 2) Code Beacons
      - Code Beacon
      - Airport Code Beacon
      - Airport Rotating Beacon
      - Auxiliary Airport Beacon
      - Auxiliary Airport Code Beacon
      - Auxiliary Beacon
      - Auxiliary Code Beacon
      - Auxiliary Green Code Beacon
Electric Code Beacon
Flashing Code Beacon/Flashing-Code Beacon
Flashing Green Beacon
Identification Beacon
Identification (Code) Beacon/Identification Code Beacon
Long Range Beacon
Rotating Airport Beacon
Rotating Beacon for Small Airports/Airport Rotating Beacon for Small Airports

b) Airway Beacons
Acetylene Gas Blinker
Airway Beacon
Air-Way Beacon
Airway Beacon Light
Airway Light Beacon
Air-Route Beacon
Automatic Routing Beacon
Auxiliary Blinker Light
Aviation Routing Beacon
Course Light/Course-Light
Electric Routing Beacon
En Route Beacon
Fixed Course Light*
Gas Routing Beacon
Lighting Airway
Route Beacon
Routing Beacon
Sperry Airways Beacon

c) Heliport & Other Beacons
Heliport Beacon
Heliport Identification Beacon
Heliport Rotating Beacon
High Intensity Heliport/Medium Intensity Heliport Beacon
Identification Beacon for Heliport Use
Revolving Projector Type of Beacon

Rotating Heliport Beacon
Seaplane Base Identification Beacon
Seaplane Base Light Beacon
High Intensity Seaplane Base Beacon/Medium Intensity Seaplane Base Beacon
Stolport Beacon

4B4 Miscellaneous Beacons & Support Structures
a) Miscellaneous Beacons
Approach Light Beacon
B.B.T. Flashing Beacon
Cluster Beacon
Flickering Beacon
Incaidescent Beacon
Landmark Beacon
Solar Powered Beacon

b) Support Structures
General Note
51’ Airport Beacon Tower
Beacon Tower:
Prefab Tower Structure
Structural Steel Tower
Tubular Steel Tower
Double Wood Pole Tower
Tubular Tower/Tubular Beacon Tower/Tubular Steel Airport Beacon Tower
Airport Beacon Tower
Tower, Aerial Navigation Beacon

4B5 Obstruction Lighting
General Note I, II, III
a) Overarching Terms
Airport Hazard Beacon
Hazard Beacon
Hazard Light
Hazard Warning Beacon
Obstacle Light
Obstruction Identification
Obstruction Lights
Obstruction Lighting
Obstruction Marker & Lighting
Obstruction Marker Lighting
Red Danger Light
Tower & Obstruction Lighting/Tower Obstruction Lighting

b) Beacons
Anticollision Beacon
Beacon, 300mm Hazard/300mm Beacon (Obstruction)/
300mm Hazard Beacon/300-mm Hazard Beacon/300mm
Beacon
Red Beacon (Obstruction)
Flashing Beacon
Flashing Hazard Beacon/Flashing Red Hazard Beacon
Flashing, Omnidirectional Beacon
Light, Navigational, Beacon, Obstacle or Code
Military Airport Beacon*
Obstacle Beacon
Obstruction Strobe Beacon
Rotating Beacon
Rotating Lights*
Rotating 24-Inch Beacon
300mm Code Beacon/Flashing Code Beacon/300mm Code &
Hazard Beacon
300mm-Millimeter Fresnel Lensed, Obstacle or Code Beacon
Navigation Light
c) Obstruction Lights- Incandescent & Miscellaneous Types
Aviation Red Obstruction Light
Double & Single Obstruction Light
Double Obstruction Light
Field Obstruction Light
Low Intensity Obstruction Light
Neon Obstruction Lighting
Obstruction Marker Light
Red Obstruction Lighting
Single Obstruction Light
Steady-Burning Light/Steady Burning Red Obstruction Light
Suspension Type Obstruction Light
d) Obstruction Lighting-Strobes & Composite Types
Catenary Lighting
Daytime Lighting for Tall Obstructions
Dual Lighting/Dual Lighting System
Dual Lighting with Red-Medium Intensity Flashing System/
Dual Lighting with Red-Medium Intensity Flashing White/
Dual Red-White Medium Intensity Obstruction Strobe Beacon
High Intensity Flashing White Lights
High Intensity Flashing White Obstruction Light
High Intensity Obstruction Lighting System
High Intensity White Obstruction Light
Low-Power Consumption Strobe-Type/ Strobe-Type Flashing
Red Obstruction Light
Medium Intensity Flashing White Obstruction Light
Medium Intensity Flashing White Obstruction Lights 40 FPM/
Medium Intensity Flashing White Obstruction Light, 60 FPM
Medium Intensity Obstruction Strobe Beacon/Medium Intensity
Obstruction Strobe
Medium Intensity Omnidirectional Flashing White Light System
Medium Intensity Strobe
Obstacle Lights
Low-Intensity Lights
Medium-Intensity, Type A 60-90 fpm
Medium-Intensity, Type A 20-60 fpm
Medium-Intensity, Type B 20-60 fpm
High-Intensity Obstruction Light, Type B
Obstruction Strobe Light/Obstruction Warning Light

4C Approach Lighting
4Cl Overarching Terms
a) Major Terms
Approach Lighting Systems
Approach Lights
Approach Lighting

b) Secondary Terms
Airport Approach Lighting
Approach Lighting System
Approach Light System/Approach Light System (ALS)*
Approach Light
Approach Lighting System
Approach Aids
Approach System
Civil Visual Approach Aids
Descent Aid*
Descent Indicator Aid*

c) Sub-Overarching Terms
Airfield Approach Systems
Alignment-Type Carrier Landing System
Approach Visual Guidance Systems
Final Approach & Take-Off Area (FATO)
Ground Lights for Landing Guidance
Landing Aids
Lighting Systems
New Generation Runway Visual Range System*
Night Landing System*
Standard Approach Aid
Touchdown System*
Visual Aid to Approach for Landing
Visual Approach Aids
Visual Landing Aids

4C2. Equipment Terms
a) Physical Terms
General Note
Flashing Light*
High Intensity Unidirectional Lamp
Lamp Housing Assemblies*
Low Intensity Omnidirectional Elevated Lamp

Medium Intensity Omnidirectional Elevated Lamp
Omnidirectional Flashing Lamp
Unidirectional Flashing Lamp

Further Terms:
Capacitor Discharge Light
Condenser Discharge Light

b) Physical/Morphological Terms
General Note
ALS Threshold Light Bar
Approach Direction Light
Approach Flashers
Approach High Intensity Unidirectional Light
Approach, Inset
Approach Light
Approach Light Bar Assembly
Approach Lights for Other Instrument Runways
Approach Medium Intensity Omnidirectional Elevated Light
Approach Sequence Flashing Uni-Directional Direct Line
Couple Flashing Light
Approach Side Row
Approach, Threshold
Barrette/Centre Line Barrette
Bartow D-1 Lights
Electronic-Flashing-Approach Lighting
Elevated Approach Light
Flashers/Flashing Light
Flashing Approach Light
Flush Approach Light
Ground Level Approach Searchlight, High Intensity
Helipad Approach Light
High Intensity Approach Lights
High Intensity & Displaced Threshold Lights
High Intensity Double-Skinned Unidirectional Elevated Approach Light
High Intensity Uni-Directional Inset Approach Light
Light Marker Airport Approach
Lights, Flashing, Omni-Directional: ODALS, REILS
PAR 56 Approach Light
Q20A/PAR 56 Approach Light/PAR 56 Approach Light Lamp
Semi-Flush Approach Light
Sequence Flasher/Flaster
Sequence Flashing Lights on Center Line Approach
Sequence Flashing Lights
Sequence Flashing Lights-Unit
SFL
Side Row Barrettes
Steady Burning Lights
c) Support Structures
General Note
Low-Impact Resistant Structures
LIR
Frangible Safety Mast for Approach Systems
Frangible Safety Approach Mast
Safety Mast for Approach Lights
Safety Mast for Approach Systems
4C3 Approach Lighting Systems
General Note
a) Approach Lighting Systems
Approach Light/Approach-Light
Approach-Light Systems
Approach Lighting Systems
Approach Light Systems (ALS)
ALSF-1/ALSF-I
ALSF-2/ALSF-II
ALSF-2 System/ALSF-2 Approach-Light System
Alpha System
ALSF-II-SSALR Dual Mode High Intensity Approach Light
System/ALSF-II/SSALR Dual Mode System/Dual Mode
High Intensity Approach Lighting System
ALS/SFL Cat I & Cat II
Approach Light System for Cat II & III Runways
Approach Light System for Cat I Operations
Approach Strobes
Cat I ALS/Cat II ALS
Cat 2 Approach Lights
Circling Approach Lights
FAA High Intensity
High Intensity Approach Light Systems/High-Intensity Approach-
Light System/High-Intensity Approach Lights
High Intensity Approach Light System with SF
High-Intensity Approach Lighting
High Intensity Lights
MALS
MALS, Medium Intensity Approach Light Systems
Approach Light System, M.I., MALS
MALS Steady Burning Light
MALSF
MALS/LS
MALS
MALS Approach-Light System
Medium Intensity Approach Lighting
Medium Intensity Approach Lighting Bar Assembly
Medium Intensity Approach Lighting Equipment
Medium Intensity Lighting System
Medium Intensity (MALS, MALSF, MALS)
Non-Instrument Approach System
Non-Precision Approach Lighting System
Precision Airport Category I Lighting System
Precision Approach Category I Light System
Precision Approach Cat II & III Lighting System
SALS
Simple Approach Lighting System
Simple System
Simplified Approach Lighting/Simplified Approach Lighting
System
“Simplified” Approach Light System
SSALF
SSALS
SSALR
Standard High Intensity Approach Lighting System
Straight-In Approach System
System of Approach-Lights
b) Special Approach Lighting Types
Airport Lead-In Lighting System (LDIN)
Circling Guidance Lights
Lead-In Lights
Lead-In Light System (LDIN) Airport Lead-In Light System/
Runway Lead-In Lighting System
Lead-in-Lighting
Long Lead-In Strobe Lighting System (LLDIN)
ODALS
Omnidirectional Approach Light System (ODALS)
Omnidirectional Approach Lighting Systems (ODALS)
Omnidirectional Flashing Lights
Omnidirectional Lead-in Approach Light System
Omnidirectional Lead-in Lights
Omnidirectional Lights
RAILS/Runway Alignment Indicator Lights/Runway Alignment
Indicator Light System
REIL
RIL, Runway Identification Lights
Runway End Identifier Light (REIL)
Runway-End Indicator Light*
Strobes
Visual Vector Omnidirectional Approach Lighting System
c) Historic Terms
1) Slopeline Systems
Double-Row Funnel-Shaped Slope Line Configuration/
Dual-Row Funnel-Shaped Slope Line Configuration
Pearson Slope Line Approach Light System
H.I. Slopeline Approach Lights
Slope Line Approach Lighting System
Slope Line Approach-Light System/Slope Line Approach-
Light System/Slope Line Approach Line System
Slope Line Lighting System
Slope Line System
Slopeline Approach Light System
Slope-Line Approach System*
Slopeline System
Slopeline-Transverse-Bar Approach-Light System/
Slopeline Approach-Light/Slopeline Approach-Light
System with Transverse Bars (SET)
Slope Line High Intensity Approach Lighting System
Slope Line System of High Intensity Approach Lights
Slopenline
Slope Line Lights
Slope Line Approach Lights/Slope-Line Approach Lights
Slope & Approach Light
Slope Approach
2) Center Line Systems
General Note
Center-Line Approach Light System
Center Line Approach System
Centerline Approach Lighting System/Centerline Approach
Light System
Center-Line Lights
Center Line System
Center-Line System
Centerline System
Center Line Approach System
Center Line Approach Lighting
Center-Line High Intensity Approach Light System
Center Row System
Center-Line “Configuration A” System
Single-Row Center-Line System
Centerline System with Strobeacon
Centerline-Crossbar Configuration
Centerline Crossbar System

3) Other Historic Approach Lighting Systems
AGA Funnel System
All-Weather Approach Lights Approach System
ALPA System
Air Line Pilots Association (ALPA)
ALPA ATA Approach Lighting System*
Angled Linear System
Barrette Centreline Approach Lighting System*
Bartow Approach Lights
Bartow Light System
Bartow Multi-Row Approach-Light System
Bartow System
Calvert Bar System
Calvert Centreline & Crossbar System*
Calvert International System*
    Chance Light*
    Money Flare*
Calvert System
Civil Airfield Approach System
Distance Coded Centerline Approach Lights*
Funnel-Shaped System*/Funnel-Shaped Lights
Funnel System
Landing Approach Light System
Left-Hand Row System/Double-Row System
Modified Calvert System
Calpa or Alpert System
Calvert (English) System
Calvert System of Approach Lights
Calvert & RAE System
Centerline Lighting
Configuration A

Drem I*/Drem II*/Drem System*
Dutch System
EFAS, Electronic Flash Approach System
EFAS
Flare Path*/Flare Path System*
Glim Lamp Flare Path System*
Glim Lamp System*
High Intensity Incandescent Approach Lights (ALS)/
    Medium Intensity Incandescent Approach Lights (ALS)
Incandescent-Lamp Approach System
Interrupted-Sequence-Flashing Approach-Light System
Left-Hand, Single-Row, Ladder-Type, High Approach
    Light Lanes
Approach Light Lanes
Left-Hand-Row System/Left-Hand Row “Ladder System”
Multi-Row Approach-Light System
National System
Neon Approach Light/Neon Approach-Light/Neon Light
    System
Neon Approach Lighting System
Neon Ladder/Neon-Lamp-Ladder Approach System
Parallel-Row System/Parallel Row Approach Light System/
    Parallel Row Approach-Light System
RAE Horizon-Bar System (RAE)
Row-Type Approach Light System
Standard Approach Light System
Surface Illumination System*
System of Neon Approach Lights
Two-Row Approach-Light System
U.S. National Standard Configuration “A”/U.S.
    Standard Configuration A (Alpha) System
Component of Approach Systems:
    Steady-Burning Approach Light
    Terminating Bar
    Wing Bar
4C4 Final Approach Equipment

a) Overarching Terms

Approach Path Slope Indicator
Approach Visual Guidance System
Bar-Type Aid*
Heliport Approach Path Indicator (HAPI)
Glide Path Light Indicator
Ground-Based Visual Light Guidance System
Medium-Intensity HAPI Unit
Visual Approach Descent Indicator (VADI)
Visual Approach Guidance Indicator Systems
Visual Glide Path Aid
Visual Glide Path Indicator
Visual Guide Path Indicator (VGPI)
Visual Guide Slope Indicator
Visual Guide Slope Indicator System

b) Precision Approach Path Indicators

Four Box Precision Path Indicator System*
Precision Approach Path Indicator/Precision Approach Path
Indicator (PAPI)*
PAPI
Precision Approach Path Indicator (PAPI) System
Precision Approach Path Indication Lights*
PAPI System
PAPI Approach System
PAPI Glide Path Lighting System/GPLS
PAPI Lights/Precision Approach Path Indicator (PAPI) Lights
PAPI-4/PAPI-2
PAPI Wing Bar
Abbreviated PAPI
Abbreviated Precision Approach Path Indicator (APAPI)
APAPI
Mini-PAPI
CHAPI/CHAPI System
Portable PAPI

Three Lamp PAPI

c) VASI Systems

1) System

Visual Approach Slope Indicator (VASI)
Visual Approach Slope Indicator (VASI) System/Visual
Approach Slope Indicator System
Visual Approach Slope Indicator System (VASIS)
Visual Approach Slope Indicator System
VASI
VASI Approach Indicators*
VASI System
VASI-Type Approach Aid*
VASIS
A-VASIS
AVASIS
Abbreviated Visual Approach Slope Indicator
Abbreviated Visual Approach Slope Indicator System (AVASIS)
SAVASI
RT-VASIS
AT-VASIS
7-VASIS Light Units (Blade Type)/T-VASIS Light Units
T-VASIS/Tee Visual Approach Slope Indicator

2) Operational Types

General Note
VASI-2/VASI-4/VASI-6/VASI-12/VASI-16
VASI-II/VASI-IV/VASI-VI [3 Bar]/VASI-XII [3 Bar]
2-VASIS
12-Box VASI/12-Box VASI System
4-Box VASI
2-Box VASI
2-Bar VASI/2-Bar VASIS/3-Bar VASI/3-Bar VASIS/
2-Bar System/3-Bar System
VASI-2nd Light Bar/VASI 1st Light Bar
2-Bar System (VASI-2, -4, -12)/3-Bar System (VASI-6, -16)
R-W VASIS*
### d) Other Final Approach Types

1) Glide Path
   - Approach-Angle Lights
   - Glide Path Indicator
   - GPI
   - Glidepath Indicator
   - Precision Visual Glide Path (PVG)
   - Pulsating System
   - PVG System
   - TEE System
   - Tee Visual Glidepath (Tee or TVG)
   - TVG

2) Tri-Color
   - Tri-Color Glide Path Indicator
   - Tri-Color Systems
   - Tri-Color Visual Approach Slope Indicator

3) Fresnel
   - Navy Fresnel System/Navy Fresnel Lens Optical Landing System/
     Fresnel Optical Landing Systems, FLOLS/FLOLS,
     Fresnel Lens Optical Landing System
   - Fresnel System
   - MDLA, Mirror Deck Landing Aids
   - Mirror System

4) PLASI
   - HAPI-PLASI
   - HFLI-PLASI
   - PLASI
   - PLASI I, II
   - Portable PLASI
   - Pulsating Visual Approach Slope Indicator
   - Pulse Light Approach Slope Indicator (PLASI)
   - Pulsed Light Approach Slope Indicator

5) Miscellaneous Systems
   - AAI System

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### 4D Runway & Taxiway Lighting

#### 4D1 Runway Lighting

#### s) Overarching Terms
   - General Note
   - Runway Lights
   - Runway Lighting
   - Runway Lighting System
   - Runway Visual Aids
   - In-Runway Lighting
   - Primary Airfield Lights
   - Runway/Mos Lighting

#### b) Runway Edge Lights
   - Runway Edge Lights
   - Runway-Edge Lights
   - Runway Edge Light System
   - Runway Edge Lighting/Runway Edge Lighting System
   - Runway Outline Lights
   - Standard Lights/Standard Edge Lights
   - Edge Lights/Edge-Lights
   - Edge Lighting
   - Edge Lighting System
Elevated Edge Lights
Low Intensity Edge Lights
c) Runway Centerline Lights
Airport Centerline Lights
Center Line Lights*
Centerlights
Centerline Lights
Centerline Lighting System
Centerline Guidance Lights
Centerline Runway Lights
Centre Line Lights
RCLS
Runway Centreline Lights/Runway Centre Line Lights
Runway Centerline Lights
Runway Centerline Lighting (RCLS)
Runway Centerline Lighting System/Runway Centerline Lighting System
d) Threshold, Touchdown Zone, Runway End & Other Lights
General Note
"Narrow Gauge" Pattern
Road-Holding Position Light for Vehicles
Runway Touchdown Zone Lights/Runway Touchdown Zone Lights (TDZ)
Touchdown Zone Lights/Touchdown Zone Lights (TDZL)*
Touchdown Zone Light System
Touchdown Zone Lighting
TDZL
TDZ Light Bar
Airport In-Runway Touchdown Zone Light
Runway End Lights
Runway Threshold Lights
Runway Threshold & Wing Bars/Runway Threshold & Wing Bar Lights
Threshold/End Lights/Threshold/End Lighting
Threshold Lights
e) Runway Equipment Terms
General Note
1) General Terms
Bidirectional
Elevated
Omnidirectional
Unidirectional
Flush
In-Pavement/Inpavement
In-Runway
Inset
Semi-Flush
2) Physical Apparatus
Airport In-Runway Light
Airport In-Runway TDZ Light
Bidirectional Center Line Fixtures
Bidirectional High/Medium-Intensity Runway Light
Bi-Directional Semiflush Inset Light Assembly
Elevated Edge Lights
Elevated Lights
Elevated Runway Edge Light
Elevated Runway Light
Elevated Threshold Light
Fixed Focus Bidirectional High Intensity Runway Light/
Fixed Focus Undirectional High Intensity Runway Light
500 Watt High Intensity Runway Light with Automatic
Beam Control
Flash Lights
Flush Centerline Light
Flush Light
In-Runway Light Fixture
In-Runway Lights
Inset Light
Light Assembly, Airport Runway Centerline & TDZ/Light
Assembly, Airport Runway, Centerline & TDZ Zone/
Light Assembly, Airport Runway & Centerline
Light Assembly, Airport Taxiway Centerline
Lights, Portable Runway
Lights, Runway Edge Low Intensity
Lights, Runway, In-Pavement
Multiple-Purpose Elevated Light
Narrow Gauge Runway Lights/Narrow Gauge Lighting System
(Reynolds)
Omnidirectional Lights
Portable Edge Light
Portable Runway End Identifier Light
Radio-Controlled Runway Edge Light
Runway/LGTS
Runway In-Pavement Light/Runway Inpavement Light
Semiflush Airport Light/Semiflush Airport Lighting
Semiflush Inset Prismatic Light
Semiflush Intersection Light
Semiflush Light
Semiflush Prismatic Airport Light/Semiflush Inset Prismatic
Airport Light
Standard High Intensity Runway Lighting
Unidirectional Lights
Unidirectional Semiflush Inset Light Assembly
Unidirectional Threshold Light
Unidirectional Touchdown Zone Light Fixture

3. Light Equipment by Intensity

General Note
Elevated High Intensity Runway Light Fixtures
High-Intensity Bidirectional Inset Lights
High Intensity, Elevated Type D-1 Lights
High-Intensity Lights
High Intensity Lighting System
High Intensity Runway Lights
High Intensity Runway Lighting
HIRL
High Intensity Light System/High Intensity Runway Light
System
High Intensity Runway Edge Lights/High-Intensity Runway
Edge Lights/Runway High-Intensity Edge Lighting System
High Intensity Approach Runway Light
High Intensity Runway Edge Light
High Intensity Light
High Intensity Runway Light
HIRL/MIRL
Low Intensity Edge Lights
Low Intensity Lights
Low Intensity Runway Edge Lighting
Low Intensity Runway, Landing Strip & Taxiway Light
Low Intensity Runway Lights (LIRL)/Medium Intensity Lights
(MIRL)/High Intensity Runway Lights (HIRL)/Low Intensity
Runway Edge Light/Medium Intensity Runway Edge Lights/
Medium Intensity Elevated Runway Edge Light Fittings
Medium Intensity Lights
Medium Intensity Lighting System
Medium Intensity Type M-1 Runway Edge Lights/High Intensity
Type M-1 Runway Edge Lights
Medium Intensity Threshold Special Lights
Medium/Low-Intensity Runway Light
Medium Intensity Runway Edge Light
Runway Edge Lights: LIRL, MIRL, HIRL
4D2 Taxiway Lighting

a) Overarching Terms

- Low Visibility Taxiway Lighting Systems
- Systems of Taxiway Lights
- Taxiway Lead-Off Lights
- Taxi Lights
- Taxiway Lights
- Taxiway Lighting
- Taxiway Lighting System
- Taxiway Marker Light
- Taxiway/Obstruction Lighting
- Taxiway Series Lighting System

b) Taxiway Edge Lighting

- Taxiway Edge Lights
- Taxiway Edge Lighting
- Taxiway Edge Lighting System

c) Taxiway Centerline Lighting

- Center-Line Lighting
- Centerline Guidance System
- Taxiway Centerline Lights
- Taxiway Centerline Lightings
- Taxiway Centerline Lighting Systems
- Taxiway Centre Lights
- Taxiway Centreline Lights
- Taxiway Centre Line Lights
- Taxiway Centre Line Lights on an Exit Taxiway
- Taxiway Center Line Lighting on Taxiway/Taxiway Center Line
- Taxiway Center Line Lighting on Other Exit Taxiways
- Taxiway Centreline Lighting

d) Physical Apparatus & Other Terms

1) Physical Apparatus

- General Note
- Bidirectional Lights
- Blister Lights

- Button Lights
- Edge Light
- Elevated Taxiway Lights for Holding Position Markings
- 45W Taxiway Edge Lamps
- Fully-Flush Lighting Fixtures/Fully Flush Fixture
- Holding Position Edge Lights
- In-Pavement Taxiway Lights/Lights, Taxiway, In-Pavement
- In-Set-Type Runway & Taxiway Lights
- Light Assembly, Airport Taxiway Center
- Low Intensity Taxiway Light (LITL), Low Intensity Taxiway Edge Light
- Medium Intensity Light (MITL)/Medium Intensity Runway Light
- Medium-Intensity Light/High Intensity Light
- Medium-Intensity, Omnidirectional Elevated Light
- Semi-Flush Fixtures
- Semiflush Inset Lights
- Taxiway Inpavement Light/Taxiway In-Pavement Lights
- Unidirectional, Bidirectional, Light Assembly Airport Taxiway Centerline

2) Other Taxiway Lights

- Aircraft Arresting Marker Light
- Automatic Block Signal Control
- Barrette
- Clearance Bars
- Clearance Bar Lights
- Entrance-Exit Lights
- Runway Guard Light
- Snow Area Lights (Elevated Lights)
- Stop-and-Go Signals
- Stop Bars/Stop Bar System
- Stop Bar Light/Stop-Bar Light
- Taxiway Guidance Lights
- Taxi-Holding Position Lights
- Taxiway Intersection Lights
- Taxiway Traffic Control System
4D3 Historic & Composite Terms

a) Historic Terms: Boundary, Contact & Range Lights
   - Border Lights*
   - Boundary Lights
   - Boundary Lights System
   - Contact Lights
   - Contact Lights of the Marker Type
   - Contact-Light System/Contact Light System
   - Distance-To-Go (DTG) Marker Lights/-Lighting
   - Flush Marker
   - Floating Seadrome Lights
   - Land & Hold Short Lights
   - Range Lights

b) Composite Terms
   - General Note
   - Centerline & or Touchdown Zone Lights
   - Centerline & Touchdown Zone Lighting Systems
   - End/Threshold Light
   - Lights, Runway & Taxiway Edge, Low Intensity Lights, Runway
     & Taxiway Edge, Medium Intensity
   - Runway Center & TDZ Lights/Runway Centerline & TDZ Lighting
     Systems
   - Runway & Strip Light
   - Runway & Taxiway Edge Light
   - Runway & Taxiway Edge Lighting Systems
   - Runway & Taxiway Lights
   - Runway Threshold/End Lights
   - Threshold & Runway End Light/Threshold Runway End Lights
   - Touchdown & Centerline Light

Notes

New Terms:

AIM 2004
- Approach Light System (ALS) [new: (ALS)]
- Military Airport Beacon
- Navigational Aids (Navaids)
- Navigational System
- Precision Approach Path Indicator (PAPI) [new: PAPI]
- Touchdown Zone Lights (TDZL) [new: TDZLO]

Clark & Gordon 1981
- R-W VASIS

Young JN 1994
- Bar-Type Aid
- Calvert Internacional System
  - Components:
    - Chance Light
    - Money Flare
- Descent Aid
- Descent Indicator
- Drem I
- Drem II
- Drem System
- Flare Path/Flare Path System
- Glim Lamp Flare Path System
- Glim Lamp System
- International Lighting System
- Night Landing System
- Night Landing & Approach Aids
- Surface Illumination System
Touchdown System
VASI Approach Indicators
VASI-Type Approach Aids

FAA FTP 2000

Flashing Lights
Four Box Precision Path Indicator System
Lamp Housing Assemblies
National Airspace System (NAS) Ground-to-Air (G/A) Systems
New Generation Runway Visual Range System
Runway-End Indicator Light

ICAO AD editions

ALPA ATA Approach Lighting System
Barrette Centreline Approach Lighting System
Calvert Centreline & Crossbar System
Center Line Lights
Distance Coded Centreline Approach Lighting System
Standard VASIS

Komons 1978

Fixed Course Lights
Aerial Lighting

Kroger 1948

Funnel-Shaped Lights

Literary Digest 1926

Border Lights

Mola 2003

Aircraft Landing Aids
Precision Approach Path Indication Lights
Rotating Lights

Sharp 1944

Contact Lights of the Marker Type

Part J

Aero Aid
Aero Lights
Aero Safety Aids
Aero Visual Aids
Beacon Aids
Flashing Aids
Funnel-Shaped Lights
Funnel-Shaped System
Landing Aids to Navigation
Visual Aero Aids

Differences Between Index and Text of Database:

Nav aids in Index but Navaid in Text; Review
Radio & Navigation Aids in Index but Aid in Text; significant? Review
Airport Visual Navigation Aids System in Index but Navigational in Text.
Approach & Runway ... System in Text; add System to Index
Approach, Threshold, & Runway End Elevated... in Index; no & in Text
Approach/Threshold/Runway End Inset Light in Index; Elevated in Text
Above terminated duplicated in Index; drop one.
Lighted Aids for Air Navigation for Air Navigation in Text; add to index
Aeronautical Ground Light in Index is duplicated; delete one
Aerodrome Lighting Systems in text; singular in Index
Marking & Lighting/Lighting & Marking in Index; text has Marking and Lighting Systems; delete second term in Index; add term from Text
Beacon not listed in Text as individual term but is in Index
Twenty-Four-Inch Beacon duplicated in Index; drop one
Alternating Green/White Beacon/Alternating Yellow/White Beacon in Index;
Text employs Alt for both.
Beacon, 300mm Hazard/300mm Beacon (Obstruction), 300 mm ... in Index but / between ) and 300 in Text.
[Arrangement of Sub-Overarching Terms very different between Index & Text].
Capacitor Discharge Light and Condenser Discharge Light preceded by Further Terms in Equipment Terms in Text
Approach Side Row, High Intensity in Index; no High Intensity in Text
ALSF-II/SSALR Dual Mode ... /ALSF-II/ SSALR Dual Mode System in Index
but / omitted in Text for ALSF SSALR Dual Mode System
Approach Light System for Cat I Operations in Text; add in Index
Cat I ALS/Cat II ALS together in Text; separate in Index
MALS Approach-Light System in Text; add to Index
Non-Precision Approach Light System not in Text: Review
Non-Precision Cat II & III Lighting System not in Text: Review
Simple Approach Lighting System in Text; Index has Light not Lighting
Lead-In-Lighting duplicated in Index; delete one
Neon Approach Light/Neon Approach-Lights/Neon Light System in Text; add to Index
Neon Approach Lighting System
Neon Ladder/Neon-Lamp-Ladder Approach System in Text; Neon Ladder missing from Index but now added
Wing Bar and other terms preceded by Components of Approach Systems: in Text; add to Index

VASIS: Types accompanied by General Note in Text; add to Index
2-Bar System/3-Bar System in Index joined by (VASI-2, -4, -12) for first entry and (VASI-6, -16) for second in Text; now added to Index.
PVG in Index and in Text; how description in Text adds System; now added to both.
Tee Visual Glidepath in Index joined by (Tee or TVG) in Text; now added to Index.
Pulse Code ... in Index is altered to Pulse Coded ... in Text; now added to Index
Runway Visual Aids in Text; add to Index
High Intensity Slopeline Approach Lights in Index; H.I. in Text
High Intensity Slopeline Approach Lights duplicated in Index; one entry deleted.
Centerline-Crossbar Configuration
Angled Linear System in Index and should be in Text
Landing & Approach Light System in Index lacks & in Text
Centerline Lighting in Index; second line omitted
Left-Hand, Single-Row, Ladder Type, High Approach Light Lanes in Index;
Light Lanes omitted in Text; now added
Left-Row System in Text; now added to Index
Edge Lighting System in Text; added to Index
TDZL in Text; added to Index
Runway Threshold & Wing Bar in Index joined by Runway Threshold & Wing Bar Lights in Text; now added to Index
Runway Remaining Lighting ... in Index has Lighting mispelled; now corrected.
General Note for Runway Equipment adjacent to General Terms in Index; now moved to Runway Equipment
Elevated Runway Edge Light in Index requires space between Edge and Light
Low Intensity Light in Text; added to Index
Low Intensity Runway Lights (L1RL) ... joined by Low Intensity Runway Edge Light/Medium Intensity Runway Edge Lights/High Intensity Runway Light
A review of the use of the acronyms MIRL and MiTAL is needed.
Stop Bar Light/Stop-Bar Light in Text; added to Index
Flush Marker in Text; added to Index
Runway & Taxiway Edge Light
Differences Between Classifications & Database
Note: Aero terms are often very technical. That may help to explain why a number of differences in terminology has crept into both the Classifications and Database coverage. Complexity and lack of close attention to detail may also have led to a number of errors. A difference in focus in Database and in the Classification is another possible factor. Some of the differences tend toward minutiæ.

General Terms:
Lighted Aero/Aeronautical Navigation Aids contrasts with Aero Lighted Navaids
All-Lighted Aids and Partially-Lighted Aids are terms employed in the Classification but not included in the Database.

Approach Terms:
Capacititor Discharge in the Classification is mispelled; it should be Capacitor.
Database employs Lamps in places where Lights are found in the Classifications.
Difference in terminology not clear and requires clarification.
Final Approach Indicator in Classification contrasts with Equipment in Database.
Difference, again, not clear.

Runway & Taxiway:
Inpavement employed in the Database but little use is made of Inset. That contrasts with Inset as well as Inpavement in the Classifications.
Runway & Taxiway Elevated Lights in the Classifications lacks Elevated in the Database.
Edge added to Holding Position in Database but not to Classifications
Light omitted from Clearance Bars in Database

Beacons:
Term not added to various types of Beacons in Classification since Beacon appears in the heading. Database includes full titles.

Wind Direction Indicators:
Full term in Database while Part G has only Indicator; Part H has Wind and Indicator.

4E Radio Aids
4E! Overarching Terms
a) General Terms
Aeronautical Radio Navigation
Aeronautical Radio Navigation Services
Air Navigation Aids/Air-Navigation Aids
Air Navigation Radio Aids
Air Navigation Facility (Navaids)
Air Navigational Radio Aids
Air Navaids
Air Navigation Systems
Electronic Aids
Electronic Landing Aids
Electronic Navigation Aids
Electronic Navigational Aids
Fixing System*
Ground Aids
Ground-Based Radio Aids
Ground-Based Navigation Aids
Ground Aids to Instrument Flight
Landing Area Radio Navigational Aids
Route Radio Navigation Aids
IMO Worldwide Radionavigation System*
Instrument Flight Aids
Navaid Systems
Navigation System
Primary Navaids
Radio Aids
Radio Aids to Air Navigation
Radio Aids to Navigation
Radio Location & Approach Aids*
Radio-Based Navigation Service
Radio Navaids
Radio Navigation Aids
Radio Navigational Aids/Radio-Navigational Aids
Radio Navigation/Radio-navigation
Radionavigation Aids/Radio-Aids
Radio Navigation Service
Radio-Navigational System

b) Sub-Overarching Terms

Long-Distance Aids
Long-Distance Aids to Navigation
Long-Distance Navigation Aid/Long-Distance Navigation Aids
Long-Distance Radionavigation Aids
Long-Range Navaids
Long Range Radio Navigational Aids
Short & Long Distance Radio Navigational Aids
Short Distance Aids to Air Navigation/Short-Distance Aids to Air Navigation
Short Distance Aids/Short-Distance Aids
Short Distance Navigation Systems*
Short-Distance Radio Aids/Short Distance Radio Aids
Short-Distance Radio Aids to Navigation/Short Distance Radio Aids to Navigation
Short Range Navaids/Short-Range Navaids*

c) Special Terms

General Note
Area Navigation
Area Navigation (RNav)/Area Navigation (R-Nav)
Area Navigation System
Area-Based System
Long Distance Rnav/Short Distance Rnav
Nonprecision Rnav
Rnav
Rnav/FMS
Rnav System*
Fan/Tans

Future Aviation Navigation Systems
Altitude Heading Reference System (AHRS)*
ATM
ATM/CNS/ATM
CNS
Communication, Navigation, Surveillance
Flight Management System/Flight Management System (FMS)
INS
Inertial Navigation System/Inertial Navigation System (INS)
Inertial Systems/Inertial Systems (INS)
Inertial Reference Unit (IRU)*
Integrated Global Surveillance & Guidance System (IGSAGS)
Transponder Landing System (TLS)*

4E2 Terminal Navaids/Aids to Final Approach & Landing

a) General Terms

Aids to Final Approach
Aids to Final Approach & Landing
Landing Aids
Landing Area Radio Navigational Aids
Landing Area of System of Radio Navigation Aids
Landing Systems
Precision Landing System
Standard Non-visual Aid
Standard Non-visual Aid to Final Approach & Landing
Terminal Navigational Aids (Navaids)
Terminal Navaids

b) Historic Terms

1) Overarching Terms

Aircraft Approach & Landing Systems*
Instruments Methods of Approach & Landing*
Landing-Beam System
Methods of Landing by Co-operation with the Airport D.F. Control*
Wireless Aids*
Wireless Beacon Landing System
2) Systems

   Army Air Forces Instrument Approach System Signal Set 51*
   Baumann & Ettinger System of Blind Landing*
   Beacon Method of Landing*
   Bureau of Standards System*
   D.F. Landing*
   Dunmore Ultra-Short-Wave Landing Beam*
   Equi-Signal Approach System*
   Lorenz Thick Weather Landing System*/Lorenz System*
   Marconi Medium Wave Equi-Signal Approach Beacon*
   Marconi Ultra-Short Wave Approach Beacon*
   Penetration Method of Landing*
   System of Approach & Landing*
   “ZZ” Method of Landing*
   U.S. Bureau of Standards Blind Landing System*
   U.S. Army Air Corps Blind Landing System*/Hegenberger System*
   Zeppelin-Telefunken System*

3) Components

   Boundary Beacon* [BOS=Bureau of Standards]
   Boundary Marker* [BOS]
   Landing Beam Transmitter [BOS]
   Lorenz Beacon* L=Lorenz
   Lorenz Glide & Path & Marker Beacon* L
   Lorenz Main Beacon* L
   Lorenz Outer Beacon Transmitter*
   Marconi Medium Wave Equi-Signal Approach Beacon*
   Marker “Beacon”*
   Marker Signal* L/Warning Signal*
   Outer Marker* [BOS]
   Runway Localizing Beacon* [BOS]
   Ultra-Short Wave Approach & Landing Beacon* L
   Ultra-Short Wave Marker*
   U.S.W. Approach Beacons*
   U.S.W. Glidepath*

3) ILS Components

   Course Indicator
   General Note
   Glide Slope/Glideslope*
   Glide Slope Radio Course
   Glide Slope/Glide Path
   Glide Slope Facility
   Glide Slope (GS) Facility
   Glide Slope System/Glide-Slope System
   Glide Path
   Glide-Path
ILS Glidepath Transmitter
ILS Glideslope
Landing Beam
Null-Type Glide Slope
Straight-Line Glide Path
ILS Glide Slope
ILS Glide Slope Subsystem
Two-Frequency Glide Path System
UHF Glide Slope Transmitter
ILS Glide Path Transmitter
ILS Glide Path
Localizer Unit (LO)
Localizer Type Directional Aid (LDA)*
Localizer
(LOC/DME*)
LOC/DME*
LDA/Glidescope*
Wide-aperture Localizer
ILS Localizer
Offset Localizer
Two-Frequency Localizer System
Localizer Facility
Marker Beacons
Marker Beacons
   Outer Marker, Middle Marker, Inner Marker*
ILS Middle Marker Beacon/ILS Inner Marker Beacon
NDB/Compass Locator*
Outer Marker Compass Locator/Middle Marker Compass Locator
Instrument Landing System Markers*
ILS Markers
ILS Marker Beacon*
ILS-Associated Fan Marker
Simplified Directional Facility (SDF)*
Solid-State Markers
Pole-Mounted Markers

Microwave Landing Systems, MLS

General Note
(a) Overarching Terms
Microwave Landing System (MLS)/Microwave Landing System, MLS/Microwave Landing System
Microwave System*
MLS
MLS System
(Microwave Landing System) (MLS)
Standard MLS

(b) MLS Constituents & Other Terms
Departure System
Duplex MLS
Tactical MLS Station
Interim Standard Microwave Landing System/Interim Standard Microwave Landing System (ISMLS)/Interim Microwave Landing System (ILSMS)/ISMLS
MLS/RNAV
MLS Precision Distance Measuring Equipment
Doppler MLS
Time Reference Scanning-Beam System
Scanning Beam MLS
SCAMLS
Stol/MLS

Components of MLS Include:
   Azimuth Station
   Elevation Station
MLSS Azimuth/MLS Azimuth Station
MLS Azimuth Equipment
MLS Ground Station
MLS Elevation Equipment
DME/N*
Cat I MLS
Cat II MLS
Cat III MLS
Cat II Mobile MLS (MMLS)
Cat I/II/III MLS

4E3 En-Route Aids

a) Historic Terms

1) Early Terms
   1) Equi-Signal Beacon*
   2) Telefunken Compass/Telefunken Rotating Beacon
   3) The Course Setter/Equi-Signal Course Setter
   4) Scheller Course Setter System/Scheller's Course-Setter*
   5) Scheller's (Lorenz) Equi-Signal Course-Setter*
   6) The Wireless Lighthouse
   7) Standard Beam Approach (SBA)
   8) Lorenz Azimuth Guidance Beacon
   9) Small Loop Aerial System
   10) Bellini-Tosi Radiophare*
   11) Bellini-Tosi System
   12) Bellini-Tosi Closed Loop System/Bellini-Tosi Loop Aerial System*
   13) Marconi Eight Channel Bellini-Tosi System*
   14) Multi-Channel Marconi Bellini-Tosi (or Adcock) System*
   15) Two Course Beacon/Four Course Beacon

2) Intermediate Terms
   1) Radio Range/Radio-Range
   2) Radio Range Equi-Signal Beacon System*
   3) Radio Range Beacon/Radio-Range Beacon/Radio Range Beacon System*
   4) Radio Marker/Radio Marker Beacon/Radio-Marker Beacon
   5) Radio Range Station/Radio Station Range
   6) Aural Radio Range/Aural Radio Range Beacon*
Doppler VHF Omni-directional Range
Doppler VOR
Doppler VOR (DVOR)
DVOR
D-VOR

2) Distance Measuring Equipment, DME:
   General Note
   Distance Measuring Equipment (DME)
   DME
   Distance Measuring Devices
   Distance-Measuring Equipment (DME)
   DME System
   UHF Distance Measuring-Equipment (DME)
   DME/W
   DME/P
   Precision Distance Measuring Equipment (P-DME)/MLS Precisio
   Distance Measurement Equipment (DME/P)
   DME/N

3) TACAN/Tactical Air Navigation
   General Note
   TACAN
   Tactical Air Navigation (TACAN)
   Tactical Air Navigational Aid
   Tactical Air Navigation System
   TACAN, Tactical Air Navigation
   TACAN System

4) Composite Systems
   DVOR/DME
   DVORTAC
   HVOERTAC*
   SVOR/DVOR
   VOR/DME/VORDME
   Doppler VOR/DME
   LDME*

VOR/DME-Based RNAV/VOR/DME RNAV
VORTAC
VHF Omni-Directional Range/Tactical Air Navigation (VORTAC)
VHF Omni-Directional Range/Tactical Air Navigation
Associated VOR & TACAN (VORTAC)
VOR/DME (TACAN)
VOR/Distance Measuring Equipment (DME) System of Air
   Navigation*
   Backfit VOR with TACAN Rho/Theta
   TVOR*

c) Hyperbolic Aids
   General Note I, II
   1) Overarching Terms
      Hyperbolic Aids
      Hyperbolic Navigation Systems
      Hyperbolic Radio Navaids
      Hyperbolic Radio Navigation*
      Hyperbolic Airborne Navigation Aids
      Hyperbolic Systems

   2) Loran
      General
      Loran
      Loran A/Loran-A/Loran-A System
      Loran-C/Loran C/Loran-C System
      Standard-Loran/Standard Loran/Loran, Standard
      H.F. Loran
      Low-Frequency Loran/L.F. Loran
      SS-Loran (Synchronized Loran)/S.S. Loran/Skywave
      Synchronized Loran (SS Loran)
      Loran-B/Loran-D
      Differential Loran
      Chaika/Chaika (Seagull) System/Chayka*
      Cyclan
      Cytae
      Gee
3) Decca
   General Note
   Decca
   Decca Navigator/Decca System/Decca Navigation System
   QM
   Decca Hi-Fix
   Delrac
   Dectra

4) Consol
   Consol
   Consol System
   Consol'an
   Sonne
   Consol (Sonne)
   Sonne/Consol
   Sonne (Sun)
   Sonne (Consol)
   Mond (Moon)/Stern (Star)

5) Omega
   Omega
   Omega/VLF/Omega/VLF Navigation System
   Omega/NCS System
   Omega System/Omega Navigation System
   Differential-Omega
   Omega/Loran C
   Omega Global Navigation

6) Miscellaneous Hyperbolic Aids
   Eureka/Rebecca/Eureka/Rebecca/Eureka/Eureka
   Distance Measuring System
   Lorac
   Navaglobe-Navarho
   Navaglobe/Navaglobe System
   Navarho System

Navarho-H, HH, RHO
Post Office Position Indicator (POPI)/POPI (Post Office Position Indicator)/P.O.P.I.
Raydist
Radio-Mailles System
Radio-Web/Radio-Mesh
Radio Mesh System (Radio-Mailles)
Radux
Radux-Omega
Rana
Toran

d) Satellites Navaids
   1) GPS
      (a) Overarching Terms
         GPS, Global Positioning Systems
         General Note I, II
         GPS
         GPS System
         Global Positioning System
         Global Positioning System (GPS)
         GPS, Global Positioning System
         (b) Specialized & Composite Terms
         Cat I/II/III GPS
         Global Positioning Satellites
         GPS/Glonass/GPS-Glonass
         GPS (Global Positioning System) Satellite-Based Navigation System
         Global Positioning System
         GPS*
         Standard Positioning Service (SPS)
         Precise Positioning Service (PPS)
         Maritime GPS*
         Nationwide DGPS (NDGPS)*
         RAIM/RAIM)*
         GPS/LAAS*
GPS/RAIM
GPS/WAAS*

(c) Navstar GPS

Navstar (Navigation System with Timing & Ranging)
Navstar
Navstar System
Navstar Global Positioning System/Navstar Global Positioning System (GPS)
Navstar GPS
Navstar-GPS
Navstar/GPS
Navstar Satellites
Global Positioning System (Navstar)

(d) Glonass

Glonass/Glonass (Global Navigation Satellite System)
Glonass, Global Orbiting Navigation Satellite System
Global Orbiting Navigation Satellite System (Glonass)*

2) Augmentation GPS

(a) DGPS

Differential GPS
DGPS
- Standard Positioning Service (SPS)
- Precise Positioning Service (PPS)
Differential GPS (DGPS)
DGPS System
DGPS Landing System/Special Category I DGPS Landing System/DGPS Special Category Landing System
DGPS Ground Reference System
DGPS Ground Station
Aeronautical-DGPS
GPS Differential Correction (dGPS)
DGPS/INS
DLoran-C*/Differential Loran-C*

Helicopter-Borne DGPS System
Intelligent Small Area DGPS
Augmentation to GPS*
Satellite-Based Augmentation System*
Special Category I Differential GPS (SCAT-I DGPS)*
Category I Ground Based Augmentation System (GBAS)*
NGPS*

(b) WAAS & LAAS Augmentation

LAAS
LAAS Cat I*
Local Area Augmentation System (LAAS)
LADGPS
SADGPS
Satellite Navigation Project Wide Area Augmentation System*
Wide Area Augmentation System (WAAS)/Wide-Area Augmentation System (WAAS)*
WADGNSS*
Wide-Augmentation Differential GNSS*
WADGPS
WAAS
WAAS*
Functionalism Verification System
Phase 1, Phase 2
WAAS Geo Communication Satellite*
W.A.A.S
WAAS GEO*
WAD*
WAS
Wide-area Ground Reference Stations (WRS)*
Wide-area Master Station (WMS)*

(c) GNSS

Global Navigation Satellite System (GNSS)
GLS (GNSS Landing System)*
GNSS
GNSS, Global Navigation Satellite System
GNSS (Global Navigation Satellite System)
GNSS Landing System (GLS)*
GNSS-1
GNSS-2
DGNSS*
DGNSS, Differential Global Navigation Satellite System*
Differential GNSS System/Differential GNSS (DGNSS)*
Cat II/III GNSS Approaches
GNSS-Based Operating System
Global Satellite System for Navigation*
Loran GNSS (LOGIC)*
Precise GNSS*/Conventional GNSS*
Radio beacon DGNSS*

(d) Other Satellite Navigational Systems
(1) Satellite Navigation Terms
ARGOS System (Advance Research & Global Observation Satellite)*
Automatic Identification System*
ECDIS*
European Geostationary Navigation Overlay System*/EGNOS*
Eurofix*
EUTELTRACS*
Geostationary Overlay System*
GBAS*
Navigation Satellite System
Navsat
Precision Approach System*
Satcom/Satcom/Satnav
Satellite Navigation
Satellite-Assisted Navigation (GNSS/GPS)
Satellite-Based Navigation System*/Satellite-Based System*
Satellite Landing System

Satellite Navigation
Satellite Navigation System
Satellite Positioning System
Satellite System
Spaced-Based Navigation & Position System

(2) Transit & US Navy System
General Note
US Navy Navigation Satellite System
US Navy System
NNSS (Navy Navigation Satellite System)/Navy Navigation Satellite System (NNSS)
Transit
Transit System
US Transit
US Transit System

(3) Miscellaneous Systems
Cellular Communication Network*
Cospos-Sarsat*
Datatrack*
Defense Navigation Satellite System (DNSS)
Digital TV Network*
Galileo*
Geostar/Locstar
Geostat*
Geostationary Earth Orbit Station Navigation (GEO)*
Granas
Integrated Global Surveillance & Guidance System (IGSAGS)
Starfix/Starfix Positioning System
Timation
Tskada/Cicada*
TSPI System
Inmarsat Satellite
Inmarsat-A System
Inmarsat-1,-2,-3 Satellite
General Note
IOR, Inmarsat III Satellites
IOR Satellites
Artemis Satellites
General Note
MSAS*
MSAS, Japan Multifunction Transportation Satellite
(MTSAT)*
MT Sat
MT Sat-1, -2
Mtsat System
Mtsat Satellites
General Note
Omnistar*
Sar System*

4E4  Intercategory Group: Beacons
a) Nondirectional Beacons
   NDB Navigation
   Non-Directional Beacon
   Non-Directional Beacon (NDB)
   NDB Ground-Based System
   Nondirectional Radio Beacon (NDB)*
   Non-Directional Radio Beacon
   NDB
   NDB (L/MF Non-Directional Radio Beacon)
   NDB, Non-Directional Radio Beacon
   NDB (Non-Directional Beacon)
   NDB, Non-Directional Beacon
   Nondirectional Beacon (NDB)
   Non-Directional Radio Beacon (NDB)
   Non-Directive Marker*
   L-F Markers
   Low-Frequency Nondirectional Beacon
   Low Frequency Non-Directional Beacon
   Low & Medium-Frequency Nondirectional Radio Beacon

   Low-Power Radio Marker Beacon*
   LF/MF/ NDB (Non-Directional Radio Beacon)
   LF/MF NDB
   L/MF Non-Directional Radio Beacon
   Compass Locator
   Homer
   Low & Medium Frequency Non-Directional Radio Beacon
   Aeronautical Nondirectional Beacon
   Aeronautical Nondirectional Beacon (Non-ILS)
   Aeronautical Radiobeacons
   ILS Nondirectional Beacon (NDB)/ILS-Associated Nondirectional Beacon

b) Marks, Markers, Beacons
   General Note
   Beacon
   Beacons for Navigation*
   Beacon Station
   Beacon Transmitters for Fixed Course & Long-Range Navigation*
   Beacon Transmitting Station*
   Directional Radio Beacon
   Directive Beacon*
   En-Route VHF Marker Beacons (75 MHz)
   Fan-Type Marker
   Fan Marker
   Fan Marker Beacon
   Fan Marker (FM)
   Fixed Non-Directive Marine Beacon*
   Loth System of Rotating Beacons*/Loth System of Twin Rotating Beacons*
   Low Frequency Nondirectional Homing Beacon
   Low-Powered Fan Marker/Low-Power Version of the Fan Marker
   “M” Marker
   Marconi Rotating Beam Transmitter*
   Marconi Ultra-Short Wave Approach Beacon*
Marine Radio Beacon
Maritime Radio Beacon System
Marker
Marker Beacon
Marker Beacon (Mkr)
Marker Beacon, 75 MHz
Marker Station
Navigational Beacon
Nondirectional Radio Marker Station
Non-Directive Marine Beacon
Radio Beacon
Radio Beacon & Fog Signals
Radio Beacon Station
Radio Beacon System
Radio Beacon Service
Radio Marker
Radio Marker Beacon/Radio-Marker Beacon
Radio-Marker Beacon Station
R.A.F. Directive Transmitter or Fordness Experimental Rotating Beacon
Rotating Beacon
Rotating Beacon Transmitter
Rotating Beacon Wireless Transmitter
Rotating Directive Beacon
75-mc Fan Marker
75-mc Marker Station
Station Location Marker
Ultra-High-Frequency Radio Fan Marker
Ultra-Short Wave Rotating Beacon
Vertical Marker Beacon
Very-High-Frequency Course Marker
Very-High-Frequency Marker
VHF Marker Beacon
V-H-F Markers
Z-Beacons
Z Marker/Z-Marker
Z Marker Beacon
c) Miscellaneous Terms
Adcock System
Aerodrome Direction Finding
Aicardi System
Aircraft Ground D.F. Station
Coastal D.F. Service
Closed Loop Coastal Direction-Finding
D.F. Stations
Direction & Position Finding
Direction-Finding Beacons/Direction Finding Beacon/DF Beacon/Omnidirectional DF Beacon
Direction-Finding Station
Double Modulation System
Fixed Spaced Frames
Four Course Beacon
Four-Course Double Modulation System
Ground-Based Doppler Direction Finding
Ground D/F Station
Ground Station D.F.
Marconi-Adcock Direction Finder Type D.F. G. 12 (Shielded "U" Type Aerial)
Marconi Ground Station Direction Finding Type D.F. G. 10
Marconi Portable Short-Wave D.F. Type D.F. G. 15
QTQ Signals
Rotating Loop Direction Finding
Rotating Spaced Frame Systems
Short D.F. Stations
Short Ground Station/Shore or Aircraft Ground Station
Short-Wave Direction Finding
Short-Wave Ground Direction Finding Stations
Spaced Frame Short-Wave Direction Finder (Eckersley-Marconi)
Standard Telephones & Cables, Ltd. Type R.S. Adcock Direction-Finding
Telefunken Ground Ray Short-Wave Portable D.F. Type P 57N*
Telefunken Long- & Medium-Wave Portable D.F. Type 393N*
Triple Modulation 12-Course Equi-Signal Beacon*
UHF/VHF Doppler Direction Finders*
Wireless Direction Finding
Wireless Beacon Landing System
Wireless Beacon Transmitter*
Wireless Position Finding*
W/T Direction Finding Station*
W/T Fog Signal Transmitter*

Notes:

New Terms:

R Keen, 1938

Adcock System
Aerodrome Direction Finding
Aicardi System
Aircraft Approach & Landing Systems
Aircraft Ground D.F. Station
Aural Radio Range Beacons
Baumann & Ettinger System of Blind Landing
Beacons for Navigation
Beacon Transmitting Station
Beacon Method of Landing

Beacon Transmitters for Fixed Course & Long Range Navigation
Bellini-Tosi Closed Loop System/Bellini-Tosi Loop Aerial System
Bellini-Tosi Radiophare
Boundary Beacon
Boundary Marker
Bureau of Standards System
Closed Loop Coastal Direction Finding

Coastal D.F. Service
D.F. Landing
D.F. Stations
Direction & Position Finding
Direction-Finding Stations
Directive Beacon
Double Modulation System
Dunmore Ultra-Short Wave Landing Beam
Equi-Signal Approach System
Equi-Signal Beacon
Fixed Course Beacon
Fixed Non-Directive Marine Beacons
Fixed Spaced Frames
Four-Course Double Modulation Beacon
Four-Course Beacon
Ground Ray D.F./Short-Wave Ground Ray D.F.
Ground Station D.F.
Hegenberger Systems
Instrument Methods of Approach & Landing
Landing Beam Transmitter
Lorenz Thick Weather Landing System
Lorenz Beacon
Lorenz Glide Path & Marker Beacon
Lorenz Main Beacon
Lorenz Outer Beacon Transmitter
Lorenz System
Loth System of Rotating Beacons/Loth System of Twin Rotating Beacons
Marconi-Adcock Direction Finder Type D.F. G. 12 (Shielded “U” Type Aerial)
Marconi Eight Channel Bellini-Tosi System
Marconi Ground Station Direction Finding Type D.F. G. 10
Marconi Medium Wave Equi-Signal Approach Beacon
Marconi Portable Short-Wave D.F. Type D.F.G. 15
Marconi Rotating Beam Transmitter
Marconi Ultra-Short Wave Approach Beacon
Marconi Ultra-Short Wave Rotating Beacon Transmitter
Marine Radio Beacons
Marker “Beacons”
Marker Signals
Multi-Channel Marconi Bellini-Tosi (or Adcock) System
Navigational Beacon
Non-Directive Marine Beacon
Outer Marker
QTQ Signals
Penetration Method of Landing
Radiobeacon Service
Radio Beacons & Fog Signals
Radio Range Beacon System
Radio Range Equi-Signal Beacon System
R.A.F. Directive Transmitter or Fordness Experimental Rotating Beacon
Rotating Beacon Transmitter
Rotating Beacon Wireless Transmitter
Rotating Directive Beacon
Rotating Loop Direction Finding
Rotating Spaced Frame Systems
Runway Localizing Beacon
Runway Localizing Transmitter
Scheller’s Course-Setter
Scheller’s (Lorenz) Equi-Signal Course-Setter
Shore-Ground Station/Shore or Aircraft Ground Station
Short D.F. Stations
Short-Wave Direction Finding
Short-Wave Ground Direction Finding Stations
Spaced Frame Short-Wave Direction Finder (Eckersley-Marconi)
Standard Telephones & Cables, Ltd. Type R.S. Adcock Direction-Finding
Symmetrical Four-Course Equi-Signal Beacon
“System of Approach & Landing”
Telefunken Ground Ray Short-Wave Portable D.F. Type P 57 N
Telefunken Long- & Medium-Wave Portable D.F. Type 393 N
Triple Modulation 12-Course Equi-Signal Beacon
Transmitter Landing Beam Transmitter

Ultra-Short Wave Approach & Landing Beacon
Ultra-Short Wave Marker
Ultra-Short Wave Rotating Beacon
U.S. Army Air Corps Blind Landing System
U.S. Bureau of Standards Blind Landing System
U.S. Radio Range Beacon System
U.S.W. Approach Beacons
U.S.W. Glidespath
Warning Signals
Wireless Beacon Transmitter
Wireless Position Finding
Wireless Aids
W/T Direction Finding Station
W/T Fog Signal Transmitter
Zeppelin-Telefunken System
“Z2” Method of Landing

AIM 2004
ALD Airport Signs
Attitude Heading Reference System (AHRS)
Category I Ground Based Augmentation System (GBAS)
Category II ILS
Differential GPS
Standard Positioning Service (SPS)
Precise Positioning Service (PPS)
Dot Matrix Runway Distance Remaining Sign
European Geostationary Navigation Overlay System/EGNOS
FAA Instrument Landing System
Glideslope
(GNSS Landing System) (GLS)
GPS/LAAS
GPS/WAAS
Wide-Area Augmentation System (WAAS)

H-W 2003

Area-based Systems
ARGOS System (Advance Research & Global Observation Satellite)
Augmentation to GPS
Automatic Identification System H-W
Cellular Communication Network
Chayka
Cicada
Conventional GPS
COSPOS-SARSAT
Datatrack
DGNSS
Differential GNSS (DGNSS)
Differential GPS
  Standard Positioning Service (SPS)
  Precise Positioning Service (PPS)
Differential Loran-C
Digital TV Network
Distance Measuring Equipment [without DME of Database]
DLoran-C
ECDIS
EGNOS
Eurofix
Euteltracs European Telecommunication & Tracking System
Galileo
GBAS
GPS
  Standard Positioning Service (SPS)
  Precise Positioning Service (PPS)
Hyperbolic Radio Navigation
ILS Cat I, -II, -III

ICAO Journal November 1997

Global Satellite System for Navigation

T & C 2001

Global Orbiting Navigation Satellite System (GLONASS)

Mola 2003

Army Air Forces Instrument Approach System Signal Set 51
Course Indicator
Landing Beam
Microwave System

Ward 1998

DGNSS  Differential Global Navigation Satellite System
Fixing System
Geostationary Overlay System  Ward
IMO Worldwide Radionavigation System
Radiobeacon GNSS
Radiobeacon System

Young IN 1994

Radio Location & Approach Aids

Differences Between Index & Text:

Short-Range Navigational Aids not in Text; term deleted.
Null-Type Glide Slope not in Text but now added.
Back Course Marker Beacon duplicated in Text; one entry deleted.
Microwave Landing Systems lacks title for first segment in Index: Principal Terms; now added.
Azimuth Station and adjoining terms prefaced by Components of MLS include in Text; now added to Index.
Standard Beacon altered to Standard Beam which is correct.
Low/Medium and adjoining terms prefaced by Radio Range by Frequency in Text; now added to Index. That phrase followed by General Note in Text; now added to Index.
Precision Distance ... accompanied by MLS Precision Distance Measurement Equipment (DME/P) in Text; now added to Index
Precision Distance ... precedes DME/N in Text; Index now conforms to that arrangement.

Loran A/Loran-A/Loran-C incorrect in Database; now revised.
Loran-C/Loran A/Loran-C System See previous entry.
Consol (Sonne) and adjoining terms have different configuration in Text than in Index.
GPS, Global Positioning Systems followed by General Note I, II in Text; Index lacks Note but needed for Index.
DGPS duplicate entries in Text; one deleted.
Global Satellite System for Navigation not in Text; to be added.
Satcom/Satcom/Satnav: double // added between first two terms.
Sat Navigation is given as Satellite Navigation in Text; change needed in Index.
Satellite Navigation given twice in Text; one should be Satellite Navigator.
General Notes for Inmarsat- I .../Artemis Satellites/Mtsat require indenting for Text and Index.

Differences Between Classifications & Database

This coverage consists of a general note with specific examples.

Overarching terms are similar though not identical. Final Approach & Landing Aids in the Part H Classification becomes Aids to Final Approach & Landing Aids in the Database. En Route Aids in the Database (with several major subdivisions) becomes two groups in Classifications: En Route Short Distance Aids, and En Route Hyperbolic Aids. Satellite Navigational Aids in the Classifications becomes Satellite Navaids for the Database.

The Classification include basic and current or near-current forms while the Database has far more entries including many historical forms. There are no variant classifications.

In most instances the classifications in the modal study and in the classification monograph are similar or nearly identical. However, Part G (1994) offers a very different form. It is based on a systems perspective. And entries follow from that perspective. Part H Classification has more significance and lasting value.
4F Signs, Markings, Markers & Marks

4F1 General Notes & Overarching Terms
General Notes I, II, III, IV
Air Marking
Airmarking
Airport Marking Aids
Airport Marking Aids & Signs
Airport Pavement Markings & Signs
Day Markings
Day Marking Aids
Day Marking Devices
Daytime Markings
Marking Aids
Surface Markings & Aids
Uniform System of Ground Marks

Aids
Airport Visual Aids
Ground Aids
Visual Aids
Visual Ground Aids
Visual-Aids System/Visual Aids System

Airport Marking & Lighting
Air Navigation Lighting & Marking Aids
Lighting/Marking
Lighting & Marking
Lighting & Marking System
Marking & Lighting

4F2 Marks and Markers
Marks
Markers
Above Ground Marker
Aiming Marker for Turbojet Operations
Air-Mark/Air Mark

Air Marker/Air-Marker/Airmarker
Air Taxiway Marker
Aircraft Arresting Marker
Approach Day Marker
Aproach Day Marking System
Barrier Engagement Marker/Hook Cable Markers
Bidirectional Reflective Markers
Boundary Markers
Centerline Markers
Circle Markers
Cone Markers
Corner Marker
Cylindrical Marker
Cylindrical Raised Marker
Day Marker
Day Markers for Snow-Covered Runway
Distance Marker
Distance-to-Go Marker/Distance to Go Marker
Edge Marker/Edgemarker
Edge Markers for Snow-Covered Runways
Elevated Markers
Elevated Taxiway Edge Marker
FATO Edge Marker
1500-Ft Marker/Runway 1500-Ft Marker
Fixed Distance Marker
Flag Marker
Flash-Type Marker
Half Way Marker
Helicopter Approach Marker
Hold Line Markers
Identification Markers
Illuminated Day and Night Marker
In Ground Corner Marker
In-Ground Marker
In-Ground Edge Marker/In-Ground Marker
Landscape Marker
Limed Marker
Markers and Markings for Snow-Covered Runways
Marker Circle
“Manmade” Markers
Markers, Retroreflective
Natural Above Ground Markers
Non-Snowplowable Markers
RBI Markers/RBI Retroreflective Markers
Reflecting Marker
Reflecting Distance Marker
Reflective Marker
Reflectorized Marker
Retroreflective Airport Marker
Retroreflective Markers
Retroreflective Runway & Identification Markers
Runway Distance Marker
Vertical Runway Distance Marker
Painted Highway Marker
Plane Marker
Power Line Obstruction Marker
Raised Edge Marker
Roof Town Marker
Runway Marker
Runway Touchdown Zone Marker
Safe Heeling Marker Board
Segmented Circle Marker
Segmented Circle Marker System
Segmented Circle
Indicators
Closed Field Signal
System of Airport Marking
Segmented Markers
Semiflush Marker/Semiflush for Centerline Marking/Semiflush
Retroreflective Marker
Snowplowable Marker
Spherical Marker
Standard Air Marker
Standard Boundary Marker
Standard Marker
Stopway Edge Marker
Stopway Day Marker
Supplemental Reflective Markers/Supplementary Markers
Surface Painted Apron Entrance Point Signs
Surface Painted Gate Identification Signs
System of Approach Day Markers
Taxiway Centre Line Markers/Taxiway Centerline Markers
Taxiway Edge Markers
Taxiway Ending Marker
Taxiway Holding Post/Taxiway Holding Post Marker
Taxiway Route Edge Marker
Threshold Marker
Type I-VI Marker
General Note
Bidirectional Reflective Marker
Reflective Marker/Marker
Style A-D Markers
Undirectional L-853 Type IV Marker
Unserviceability Boards
Unserviceability Cones
Unserviceability Flags
Unserviceability Markers
Unserviceability Marker Boards
Unpaved Runway Edge Markers
Unpaved Taxiway Edge Markers
VOR Check-Point Marker
4F3 Other Aids
a) Reflective Aids
General Note
Centerline Reflector
Edge Reflectors
Elevated Edge Reflectors
Elevated Reflectors
Elevated Taxiway Edge Reflectors
Marker, Retroreflective
On-Pavement Reflector
“Passive Lighting”
General Note
Helicopter Approach Markers
Helicopter Markers
Identification Markers
RBI Reflectors
Retroreflective Aids
Retroreflective Identification Markers
Retroreflective Markers
Retroreflective Runway & Identification Markers
Runway Reflectors
Reflector, Taxiway, Strip & Runway
Reflector
Retroreflective Pavement Marker
Retro-Reflective Markings/Retro-Reflective Aerodrome Markings
Retroreflectives
Runway & Taxiway Reflective Markers/Runway & Taxiway
Retroreflective Markers
Runway Centerline Reflectors
Runway/Taxiway Reflectors
Taxiway Centerline Reflector
Taxiway Edge Reflectors

b) Signal Panel, Signal Areas, Indicators, Other Objects & Miscellany
Checkerboard Patterns
Checkerboard Markings
Compass Calibration Pad
Cone
Cones Marker
Flag

Ground Signal Panels
Ground Signal Panel & Signal Areas
Guidance Sign Boards
Half Drum
Indicator
Landing Direction Indicator
Signal Area Panel
Signal Panel
Taxiway Edge Reflector
Unserviceability Boards
Unserviceability Cone Marker/Unserviceability Cone
Unserviceability Flags
Unserviceability Marker Boards
Vee Boards
Wind Cones
Wind Direction Indicator
Windsock
Wind Tees/Lighted Wind Tee

4F14 Signs & Markings
General Note
a) Overarching Terms
Airfield Markings
Airport Markings
Airport Pavement Markings
Markings
Markings for Paved Runways & Taxiways
Markings for Surface
Paint Markings
Painted Markings
Pavement Markings
Runway & Taxiway Markings
Standard Markings
Surface Markings
Surface Markings & Markers
b) Runway Markings
Aim Point Markings
Aiming Point Markings
All-Weather Runway Markings
Basic Markings
Centerline Markings
Centre-Line Markings/Centre Line Markings
Chevron/Chevron Markings
Conflicting Runway Markings
Day Marking of Snow-Covered Runways
Instrument Runway Markings
Landing Zone Markings
Longitudinal Runway Markings
Markings for Unpaved Markings
Markings of Displaced Thresholds/Displaced Threshold Markings
Markings of Paved Areas
Marking of Snow-Covered Runways
Non-Precision Instrument Runway Markings/Nonprecision Instrument Runways
Nonprecision Runway & Visual Runway Markings
Painted Numbers
Painted Runway Markings
Paved Runway Day Markings/Paved Runway Markings
Precision Instrument Runway Markings
Relocated Threshold Markings
Runway - & Taxiway - Surface Markings
Runway Central Circle Markings
Runway Centerline Markings/Runway Centre Line Marking
Runway Day Markings
Runway Designation Markings/Designation Markings
Runway Direction Numbers
Runway Edge Markings
Runway End Markings
Runway End-Zone Markings
Runway Markings
Runway Mid-Point Markings
Runway Numbers
Runway Numerals & Letters/Runway Designation Numerals & Letters
Runway Shoulder Markings
Runway Side Stripes Markings/Side Stripes Markings/Side Stripes
Runway Surface Markings
Runway Threshold Markings/Threshold Markings
Runway Threshold Stripes
Touchdown Zone Markings/Touchdown-Zone Markings
Threshold Markings
Unpaved Runway Markings
Visual & Nonprecision Markings
Visual Runway Markings
c) Taxiway Markings
Aids to Taxying
Day Marking-Taxying Aids
Painted Hold Position Markings
Paved Taxiway Marking/Paved Taxiway Day Markings
Taxiway Centerline Markings/Taxiway Centre Line Markings
Taxiway Continuous Markings/Taxiway Dashed Markings
Taxiway Day Markings
Taxiway Edge Markings
Taxiway Holding Line Markings
Taxiway Holding Position Markings
Taxi-Holding Position Markings
Taxiway Identification Markings
Taxiway Intersection Holdline Markings
Taxiway Intersection Markings
Taxiway Markings
Taxiway Route Markings
Taxiway Side Stripe Markings
Taxiway Shoulder Markings
Unpaved Taxiway Markings
d) Markings Other Than Overarching, Runway, Taxiway, Special Categories
Approach Day Marking System
Apron & Holding Pad Shoulder Marking
Blast Pad & Over-run or Stopway Marking
Closed Markings
Closed Runway & Taxiway Markings/Closed or Temporarily Closed
  Runway & Taxiway Markings
Centerline & Edge Markers
Continuous Markings/Dashed Markings
Critical Area Hold Line Markings
Fixed Distance Marking
Geographic Position Marking
Hanger Roof Marking/Roof Marking
Holding Position Marking
ILS Holding Position Markings
Landing Direction Indicator
Longitudinal Markings
Markings & Lighting of Closed or Hazardous Areas on Airport
Marking for Arresting Gear/Pendent Cable Marking/Disc Warning
  Marker
Marking for Blast Pad or Stopway or Taxiway Preceding a Displaced
  Threshold
Marking Displaced Thresholds, Blast Pad & Stopways
Markings for Large Aircraft Parking Positions
Markings of Hazardous Areas
Marking of Temporarily Relocated Thresholds
Marking of Unserviceability Portions of the Movement Area
Non-Movement Area Boundary Marking
Off-Airport Marking/On-Airport Markings
Painted Centerline/Edge Markings
Runway Transverse Stripes/Transverse Stripes
Seaplane Base Markings
Segmented Circle/Segmented Circle Marking System
Striated Markings
Stripes
Roadway Edge Stripes/Zipper Markings
Threshold Stripes

Surface Movement Guidance Control System (SMGGS)
Taxiway/Runway Intersection Markings
Temporary Markings
Transverse Markings
Undershoot & Overrun Area Markings
Unserviceability Markings
Vehicle Roadway Markings
VOR Aerodrome Check-Point Markings
VOR Check Points/VOR Aerodrome Check-Points
VOR Checkpoint Markings/VOR Checkpoint Receiver
  Markings/VOR Receiver Checkpoint Markings
Ground Receiver Checkpoint Markings
Check-Point Markings
e) Special Category
  1) Heliport & Vertiport Markings
      Aiming Point Markings
      Boundary Markings
      Centerline Stripes
      Cylindrical Marker for Hover Taxi Route Edge Marker
      Dashed FA TO Markings
      Double Line Edges Stripes
      Equipment/Object Markings
      FA TO Markings
      Final Approach & Take-off Area Markings or Marker
      Final Approach & Take-Off Designation Markings
      Helideck Obstacle-Free Sector Markings
      Heliport “H” Marking
      Heliport Landing Aids
      Heliport Markings
      Heliport Marking & Lighting
      Heliport Lighting & Marking
      Heliport Visual Aids
      Heliport Guidance, Position & Other Markings/Guidance or
      Position Markings/Guidance & Positioning Markings
Heliport Identification Markings
Heliport Name Markings
Helipad & Helideck Markings
Hospital Markings
Hospital Heliport Markings
Identification Markings
Standard Heliport Markings
Hospital Heliport Markings
In-Ground FATO Corner/Edge Markings
In-Ground Marking
Landing Direction Arrow
Large Marker for Air Taxing Centerline
Marking of Closed Heliport
Maximum Allowable Mass Marking
Painted H Marking
Painted Markings
Park Position Markings
Standard Heliport Marking Symbol
Heliport Markers & Markings
Heliport with Markers & Markers
Taxi Route Edge Markers
Taxi Route & Taxiway Markings
Taxi Route Markings
Taxiway Markings
Touchdown & Landing Area Markings
Touchdown Markings
Touchdown Pad Boundary Markings
Weight Limit Marking
Winching Area Marking
Wire Marking
Vertiport Markings
In-Ground Edge Markers
Raised Markers
Painted Line

2) Holding Position Markings
Holding Position Markings
Holding Position Markings for Instrument Landing Systems
(IALS)/Holding Position Markings for Instrument Landing Systems
Holding Position Markings for Instrument Landing System/Microwave Landing System (IALS/MLS) Critical Areas/Holding Position Markings: ILS Critical Areas/Holding Position Markings for ILS (or MLS) Critical Area
Holding Position Markings for Instrument Landing Systems/Precision Free Zone (POFZ)*
Holding Position Markings for Taxiway/Taxiway Intersections/Holding Position Markings: Taxiway/Taxiway Holding Position Markings on Taxiway
Holding Position Markings on Runway
Holding Position for Runways/Runway Intersections
Holding Position Markings for Runway/Taxiway Intersections
Intermediate Holding Position Markings
Intermediate Holding Position Markings for Taxiway/Taxiway Intersections
Road-Hold Position
Runway Holding Position Markings
Runway Holding Position Markings on Taxiway
Runway Holding Position Markings on Runways
Runway-Holding Position Markings
Taxi-Holding Position Markings
Taxiways Located in Runway Approach Areas (Markings)

3) Obstruction Markings
Day Marking of Obstruction
Flags/Flag Marker
Markers [w/i Context of Obstructions]
Markings [w/ Context of Obstruction Markings]
Navigational Boundary & Obstruction Marker
Obstruction Identification
Obstruction Lighting & Marking
Obstruction Marking
Obstruction Markings & Lighting
Obstacle Markings
Painted Cones for Day Markings
Patterns
Solid Patterns
Checkerboard Patterns
Alternate Bands
Teardrop Patterns
Spherical Markers
Visual Aids for Denoting Obstacles

4) Apron Markings
Apron Markings
Guide Lines
Lead-Out Lines
Lead-In Lines
Turning Lines
Simple Lead-In Lines
Straight-Lead-In Lines
Simple Nose-Wheel Lead-In Line
Simple Nose-Wheel Lead-Out Line

Wing Tip Clearance Lines
Towing Lines
Equipment Limit Lines
Passenger Path Lines
Reference Bars
Turn Bars
Stop Line

4F5 Signs
a) Overarching Terms
Signs

Sign System
Airport Sign System
Airport Sign
Airport Sign System
Airside Sign System
Airside Signage
Airway Signs
Signing Aids
Sign Array

b) Signs Other Than Runway & Taxiway Types
General Note
Aerodrome Identification Sign
Airfield Directional Signs/Runway & Taxiway Directional Signs
ALD Airport Signs* [Lighted]
Cautionary Signs
Convenience Signs
Direction Signs
Direction Signs for Runway Exit
Direction Signs for Runway Exit/Direction Sign Array for Simple Intersections
Distance to go Sign
Dot Matrix Runway Distance Remaining Sign* [Lighted]
Entrance-Exit Signs
Exit Sign
ILS Critical Boundary Sign/ILS Critical Area Boundary Sign*
ILS Critical Area/POZ Boundary & Cat II/III Operation Sign*
Internally Lighted Signs/Externally Lighted Sign
Intersection Signs
No Entry Signs
One-Half Distance Remaining Signs*
Signs Prohibiting Aircraft Entry into an Area
Special Purpose Sign
Station Sign
Stop Signs
Unlighted Signs
c) Runway Signs
- Runway Approach Area Boundary Sign
- Runway Approach Area Holding Position Sign
- Runway Boundary Sign
- Runway Distance Remaining Signs/Runway Distance-Remaining Signs
- Runway Exit Signs
- Runway Holding Position Sign
- Runway Intersection Sign
- Runway Location Sign
- Runway Marking Sign
- Runway Sign
- Runway Safety Area/OFZ & Runway Approach Area Boundary Signs

d) Taxiway Signs
- Non-Illuminated Taxiway Guidance Signs
- Signs, Taxiway Guidance/Signs, Guidance/Retroreflective Taxiway Guidance Signs
- Taxiway Direction & Location Signs
- Taxiway Direction Signs
- Taxiway Ending Marker Sign *
- Taxiway Identification Signs
- Taxiway Guidance Signs
- Taxiway Guidance Sign Systems
- Taxiway Location Signs
- Taxiway/Runway Intersection Signs
- Taxiway Sign
- Taxiway Sign System

e) Special Category: Holding Position Signs
- Category II Critical Areas Hold Line Sign/Category II Hold Line Sign
- Holding Position Sign
- Holding Position Sign at Beginning Takeoff Runway
- Holding Position Sign for Approach Areas

f) Signs-Others
- Destination Signs
- Outboard Destination Signs
- Inboard Destination Signs
- Surface Painted Signs
- General Note
- Surface Painted Taxiway Direction Sign
- Surface Painted Location Sign
- Surface Painted Holding Position Sign
- Surface Painted Sign
- Surface Painted Gates ID Sign
- Surface Painted Apron Entrance Point Sign
- Surface Painted Direction Signs
- Guidance Sign
- Information Sign
- Information Sign
- Informative Sign
- Location Sign
- Mandatory Instruction Sign
- Mandatory Sign
- Roadway Sign
New Terms: FAA

SAM 2004 (-1H, Ch 2)
Holding Position Markings for Instrument Landing System (ILS)/Precision Free-Zone (POFZ)

SASS 2004 (-18D)
Holding Position Sign for ILS Critical Area/POFZ Boundary
ILS Critical Area Boundary Sign (-18C)
ILS Critical Area Boundary Sign/POFZ Boundary & Cat II/III Operation Sign

SRTS 2004 )-44G)
ALD Airport Signs [Lighted]
Dot Matrix Runway Distance Remaining Sign [Lighted]
One-Half Runway Distance Remaining Sign
Taxiway Ending Marker Sign

Differences Between Index and Text of Database:

- Marks & Markers presents a lengthy and undifferentiated appearance. Both Index and Text require a segmenting of entries.
- Type I-VI Markers has a different configuration in text than that of index. General Note of Text omitted in Index but need to be added.
- Unidirectional L-853 Type IV Marker listed as Type IV in Index; now corrected.
- Style A-D Markers in Text; add to Index
- Unservicability Cones/... Flags/... Marker Boards in Text but not in Index; added to this study.
- Signal Panels, Signal Areas, etc. retained original formulation; proposed reformulation not implemented to date.
- Continuous Markings/Dashed Markings: Dashed is Dashing in Text; change to Dashed.
- Day Marking of Obstruction within Obstruction Markings rather than an entry in its own right in Text.

Heliport Guidance ... Guidance & Position Markings in Index but second word is Positioning in Text.
Heliport Markers & Markings and Heliport with Markers and Markers: Different configuration in Text than in Index. Index lacked indentation; now corrected.
Holding Position Markings segment: numerous mispellings in Index; now corrected.
Holding Position Markings: Taxiway/Runway Holding Position ... Runway replaced by second Taxiway in Text; Index corrected.
Obstruction Markings segment: mispellings in Index; now corrected.
Turning Lines in Text as part of Lead-In Lines; added to Index.

Differences Between Classifications and Database:

- Overarching terms are few and basic for Signs and Markings in Classifications. The Database, by contrast, has extensive terms.
- Markings in Database are arranged by location (e.g. Runway, Taxiway) and some specific topics (e.g. Heliports) while the Classifications follow forms (e.g. longitudinal, transverse).
- Marks and Markers is a vast and undifferentiated mass of terms. The Classifications arrange these terms by types (e.g. elevated markers, low-elevation markers. Preliminary work on differentiation of terms in the Database has been undertaken.
- Signs in Classification are relatively terse. Single forms are listed while those forms with variant forms are subsumed under basic morphological categories. The Classifications denote both signs and markings under the heading of marker. The Database does not follow this practice.
- Variant classifications manifest an extensive expansion of terms. Runway and Taxiway are employed as distinguishing categories in contrast to the main classifications.
SUPPLEMENTAL BIBLIOGRAPHY

Most sources for this study are to be found in the appropriate Bibliographies of the Database (I, II, III, IV). However, some sources are new to this study, or to T-M History (Part J) 2002, or to titles of previously published studies in this Monograph Series. Titles from Part J are marked by the letter J.


___, 2002. T-M General Classification. 2nd ed. St Benedict (OR): MAA. J.


December 6.


wiki/Traffic_signal. 4-10-05.


