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Informal Note 59

# TRACK GEOMETRY: HUMP END OF CLASSIFICATION YARD

The purpose of this informal note is to document the types of track geometry at the hump end of the classification yards. The track geometries of various yards have been studied and arranged in a logical fashion. The geometries described here are not exhaustive. This working note should be considered as the first cut of our approach in organizing the hump end yard geometry. In this working note, track arrangements are decomposed into two parts. The first part covers the track arrangements between the hump crest and the group retarders, and the second part covers the track arrangements between the group retarders and the tangent point.

## Track Geometry Between the Hump Crest and the Group Retarders

A total of ten different schematics of track geometries ranging from a two-group arrangement to an eight-group arrangement are shown in Figures 1 to 10. The schematic drawing of each track arrangement is followed by a brief characterization of the geometry by such items as type of switches used, number of classification tracks handled by the scheme, and application examples.

## Track Geometry Between the Group Retarder and the Tangent Point

Four types of track groups are covered here, ranging from six to ten track groups. Their schematics are presented in Figures 11 to 14.

(1) Two Groups

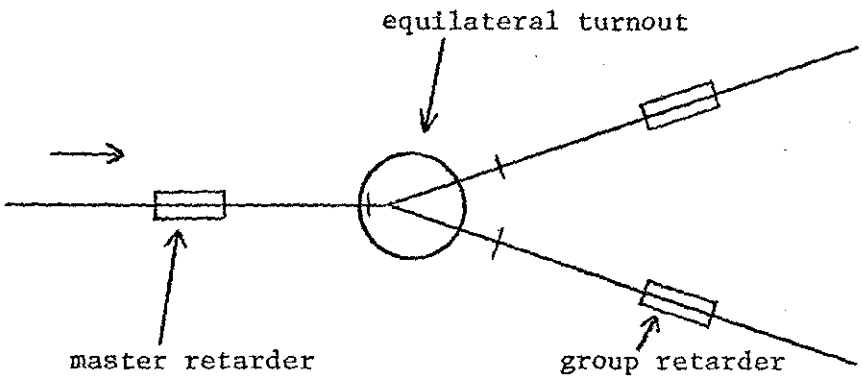


Figure 1

- King switch type: equilateral
- Number of classification tracks: 12 ∿ 20 tracks
- Application example:

(2) Three Groups

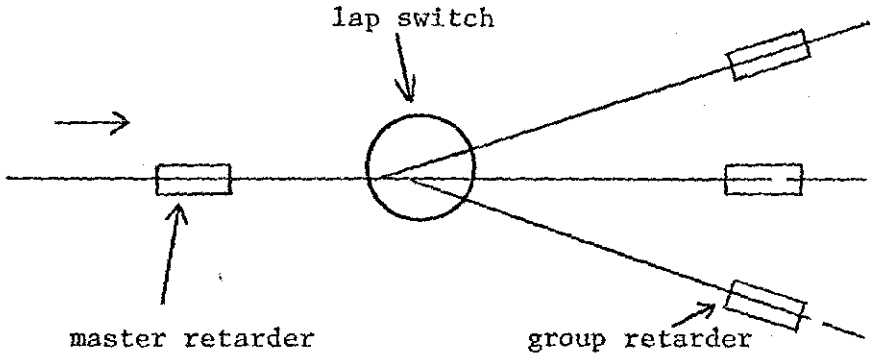


Figure 2

- King switch type: lap switch
- Number of classification tracks: 18 ∿ 30 tracks
- Application example:

(3) Four Groups

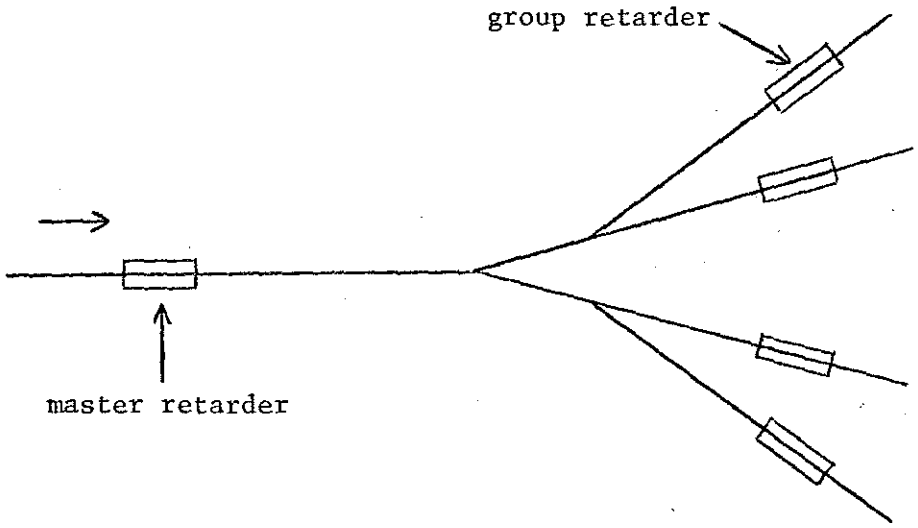


Figure 3

- King switch type: split switch with equilateral turnout
- Secondary switch type: split switch with lateral or equilateral turnout
- Number of classification tracks: 24 ∿ 40 tracks
- Application example: Columbus yard (Conrail) 40 tracks

(4) Five Groups

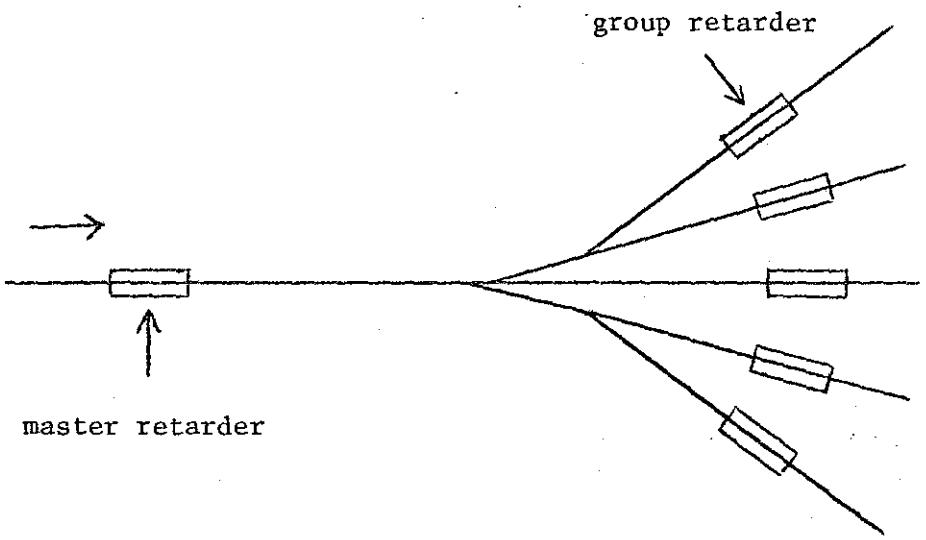


Figure 4

- King switch type: lap switch
- Secondary switch type: split switch with lateral (the inner group is on the straight track) or equilateral turnout
- Number of classification tracks: 30∿50 tracks
- Application example:

(5) Six Groups—A

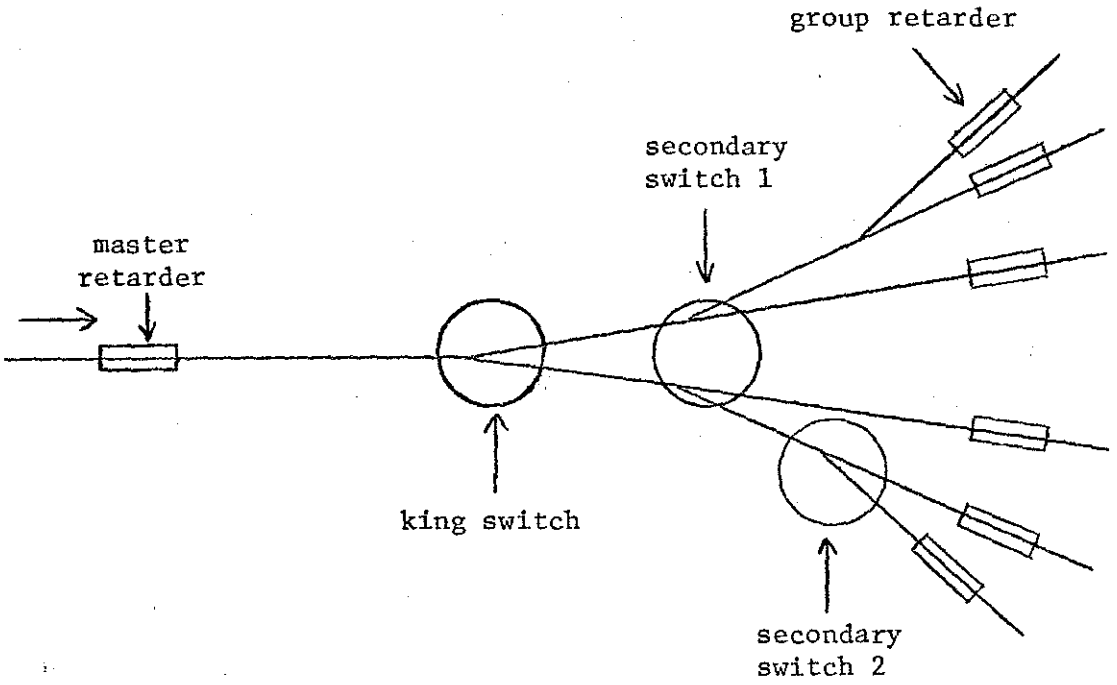


Figure 5

- King switch type: split switch with equilateral turnout
- Secondary switch 1 type: split switch with lateral or equilateral turnout
- Number of classification tracks: 36 ∿ 60 tracks
- Application examples: - West Colton (SP) 48 tracks
  - Expansion plan of Columbus yard (Conrail) 60 tracks

(6) Six Groups—B

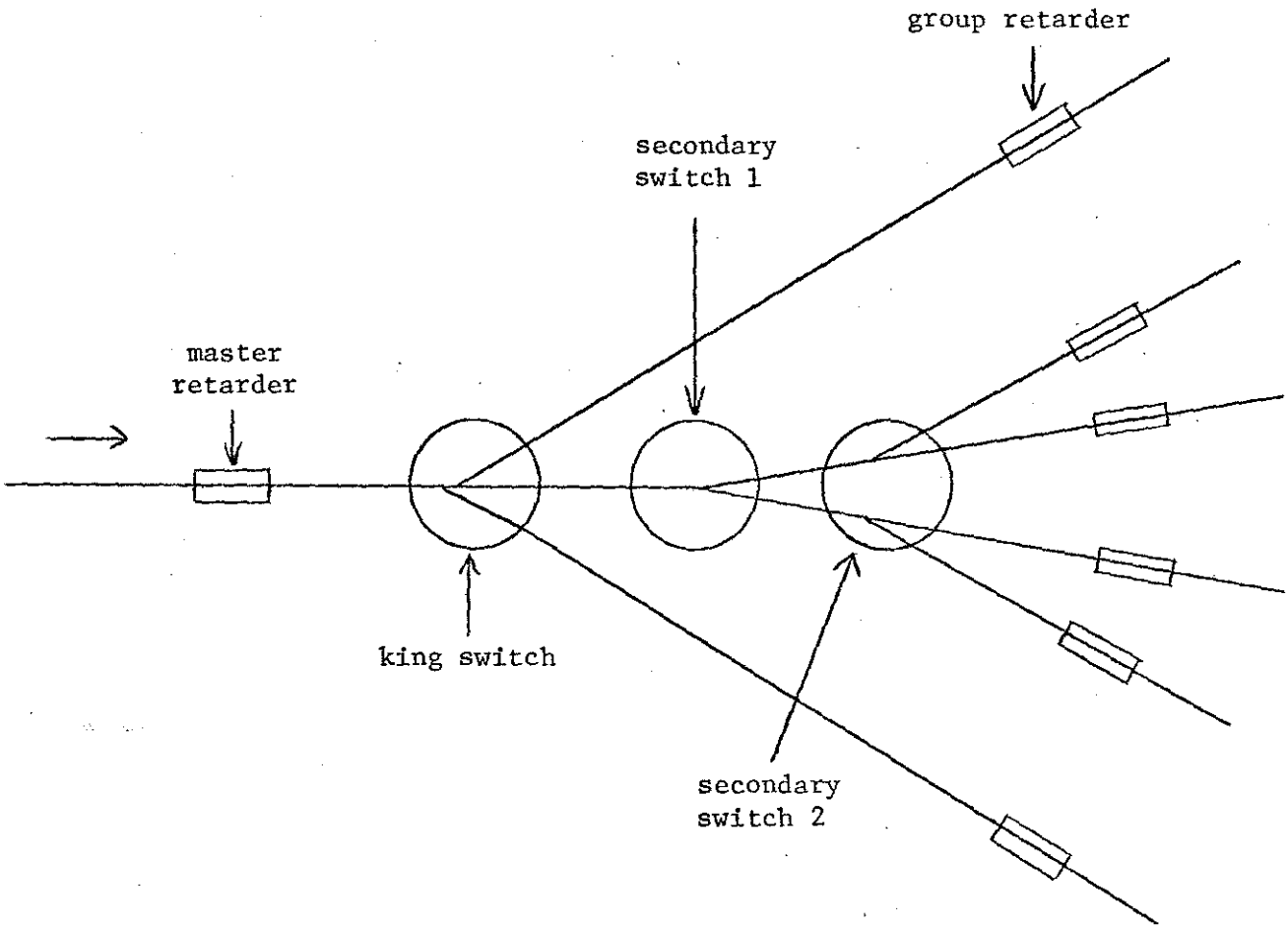


Figure 6

- King switch type: lap switch
- Secondary switch 1 type: split switch with equilateral turnout
- Secondary switch 2 type: split switch with lateral or equilateral turnout
- Number of classification tracks: 32∿60 tracks
- Application example: Sheffield (Southern) 32 tracks

(7) Six Groups—C

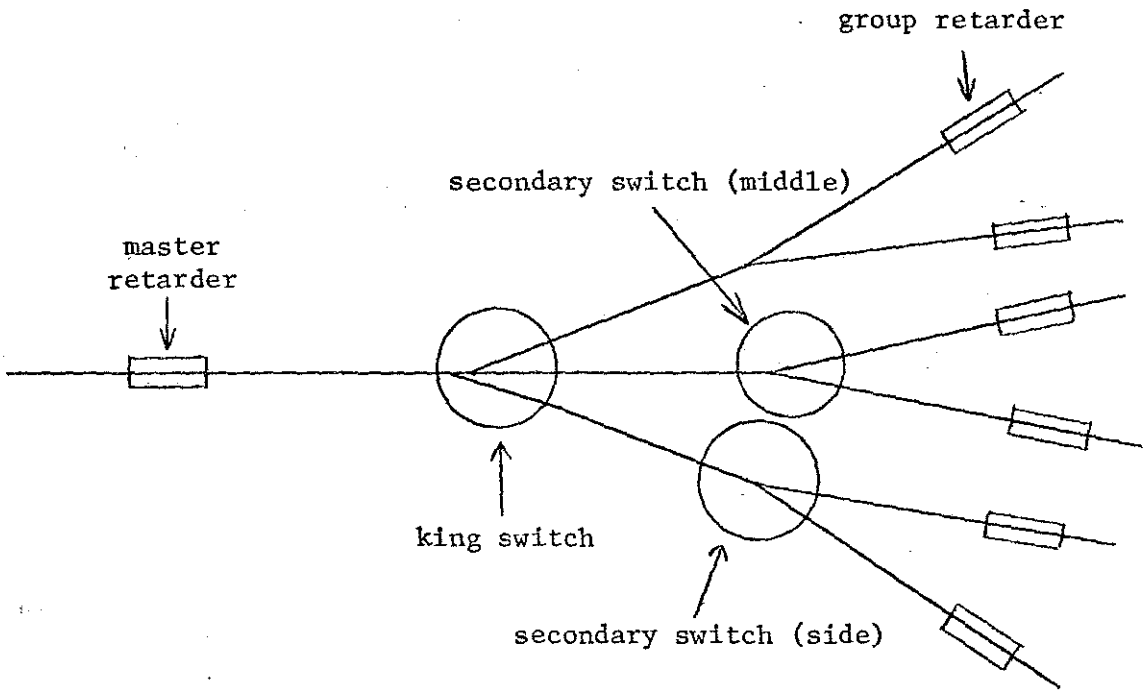


Figure 7

- King switch type: lap switch
- Secondary switch (middle) type: split switch with equilateral turnout
- Secondary switch (side) type: split switch with lateral or equilateral turnout
- Number of classification tracks: 42 ∿ 70 tracks
- Application example: Big Four yard (Conrail) 55 tracks

(8) Seven Groups—A

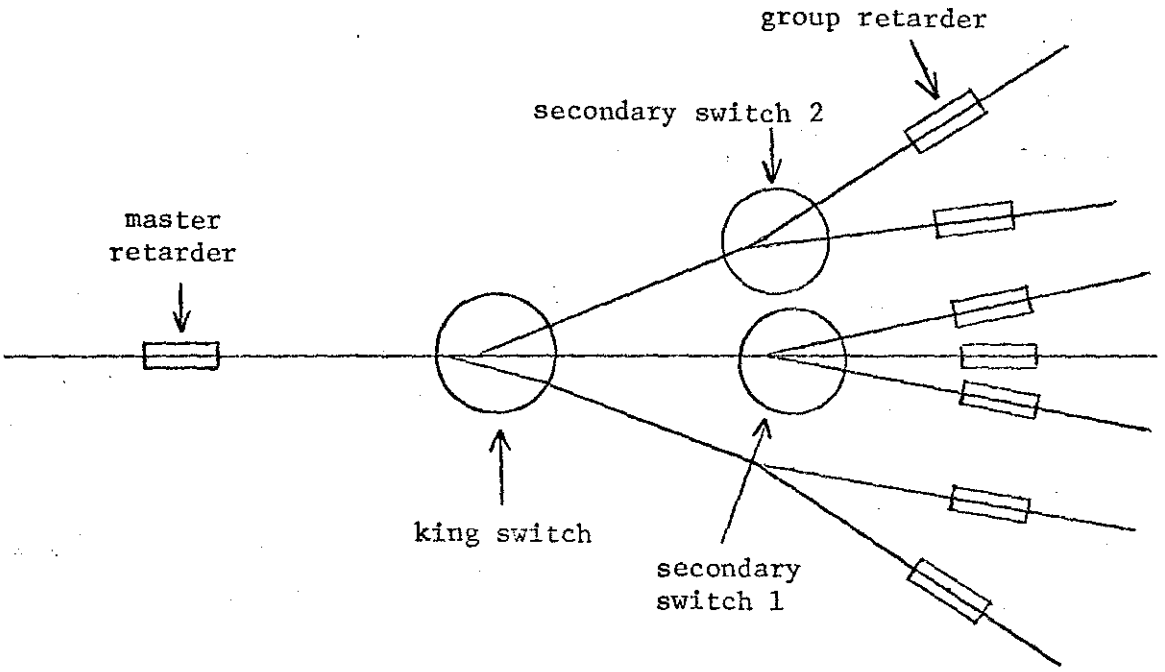


Figure 8

- King switch type: lap switch
- Secondary switch 1 type: lap switch
- Secondary switch 2 type: split switch with lateral or equilateral turnout
- Number of classification tracks: 42 ∿ 70 tracks
- Application example: East Buffalo yard (Conrail) 63 tracks

(9) Seven Groups—B

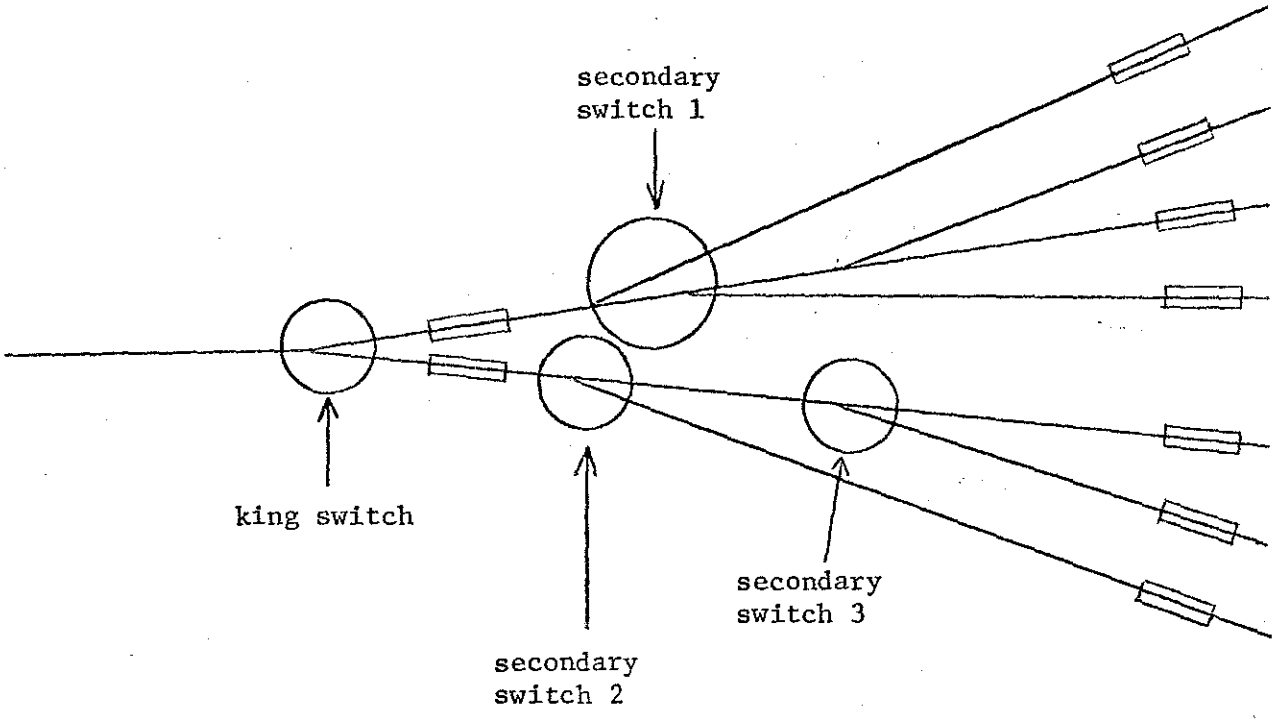


Figure 9

- King switch type: split switch with equilateral turnout
- Secondary switch 1 type: lap switch
- Secondary switch 2 type: split switch with lateral or equilateral turnout
- Secondary switch 3 type: split switch with lateral or equilateral turnout
- Number of classification tracks: 42 ∿ 70 tracks
- Application example: Selkirk yard (Conrail)

  70 tracks ⇒2 master retarders are located between the king switch and the first secondary switches.

(10) Eight Groups

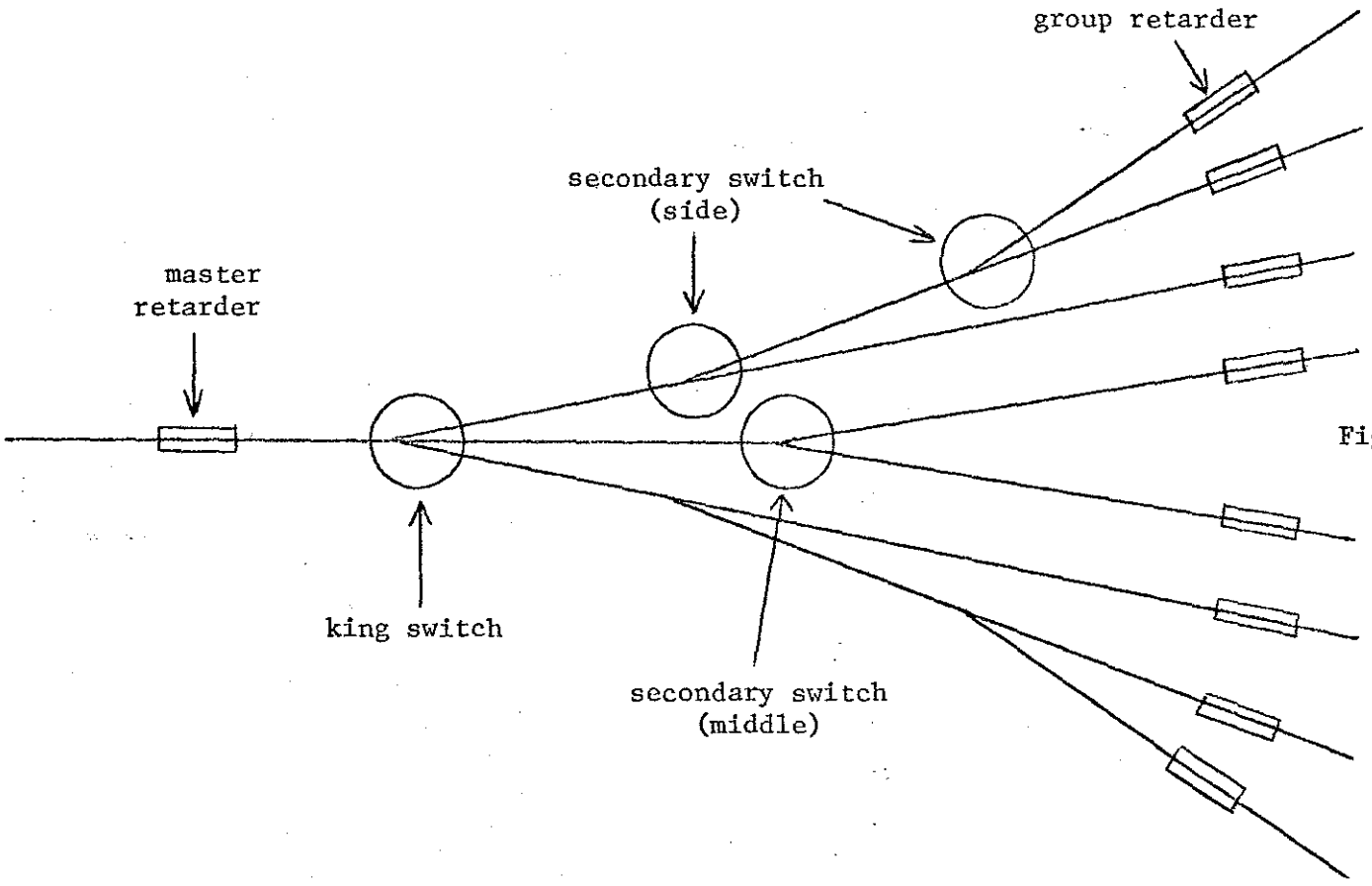


Figure 1

- King switch type: lap switch
- Secondary switch (side): split switch with lateral or equilateral turnout
- Secondary switch (middle): split switch with equilateral turnout
- Number of classification tracks: 48 ~ 80 tracks
- Application example: Elkhart yard (Conrail) 72 tracks

(11) Six-track Group

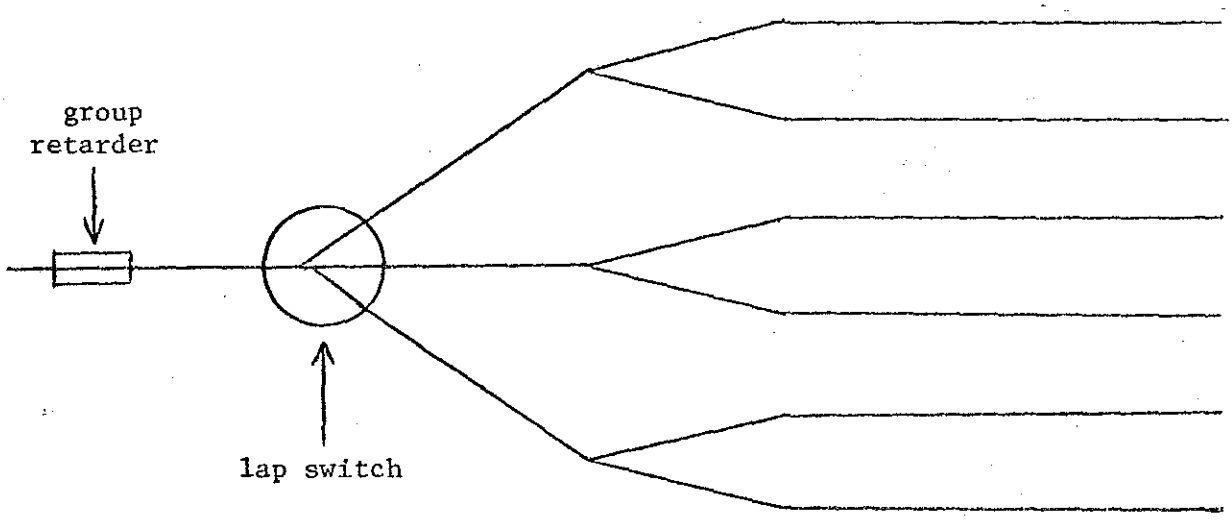


Figure 11

- Switch types: lap switch and split switches
- Application example: Sheffield (Southern) inside groups

(12) Eight-track Group

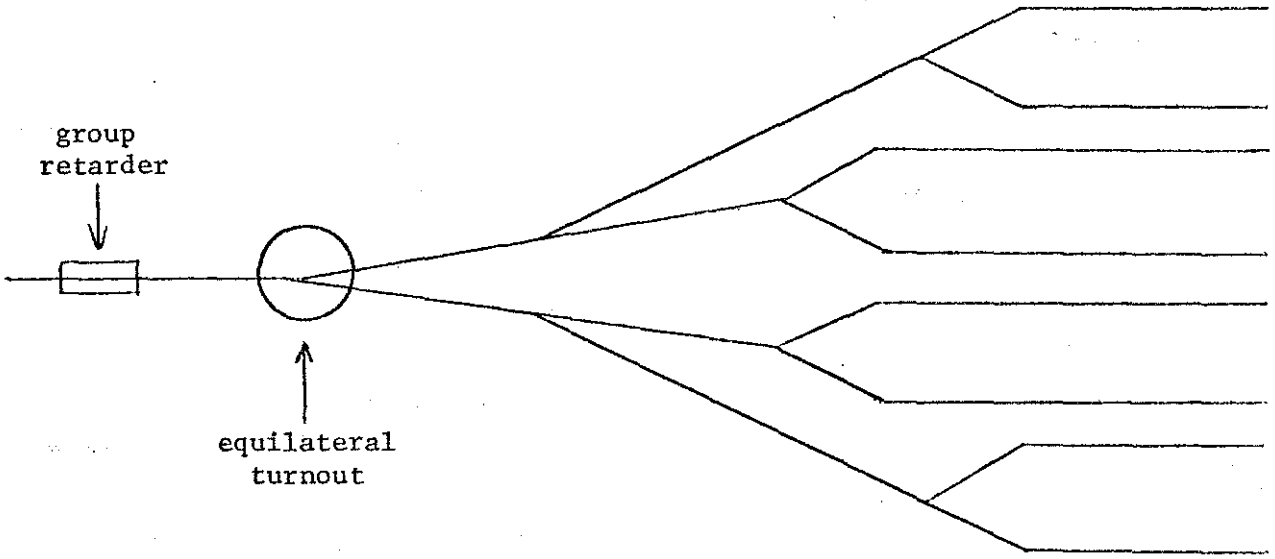


Figure 12

- Switch types: split switches with equilateral and lateral turnout
- Application example: West Colton (SP) has a tangent point retarder on each classification track.

(13) Nine-track Group

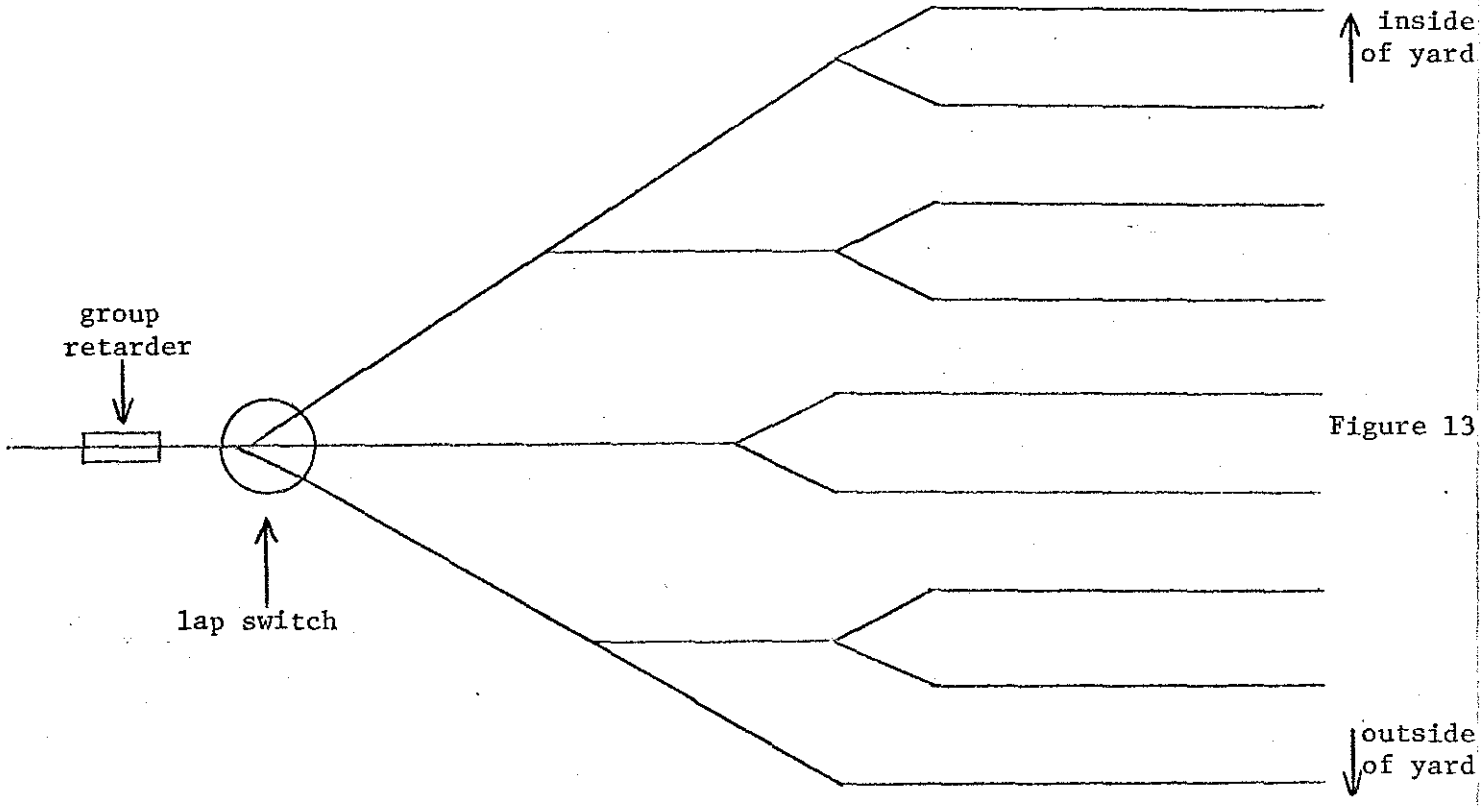


Figure 13

- Switch types: lap switch and split switches with lateral or equilateral turnout
- Application examples: Elkhart (Conrail)
  East Buffalo (Conrail)

(14) Ten-track Group

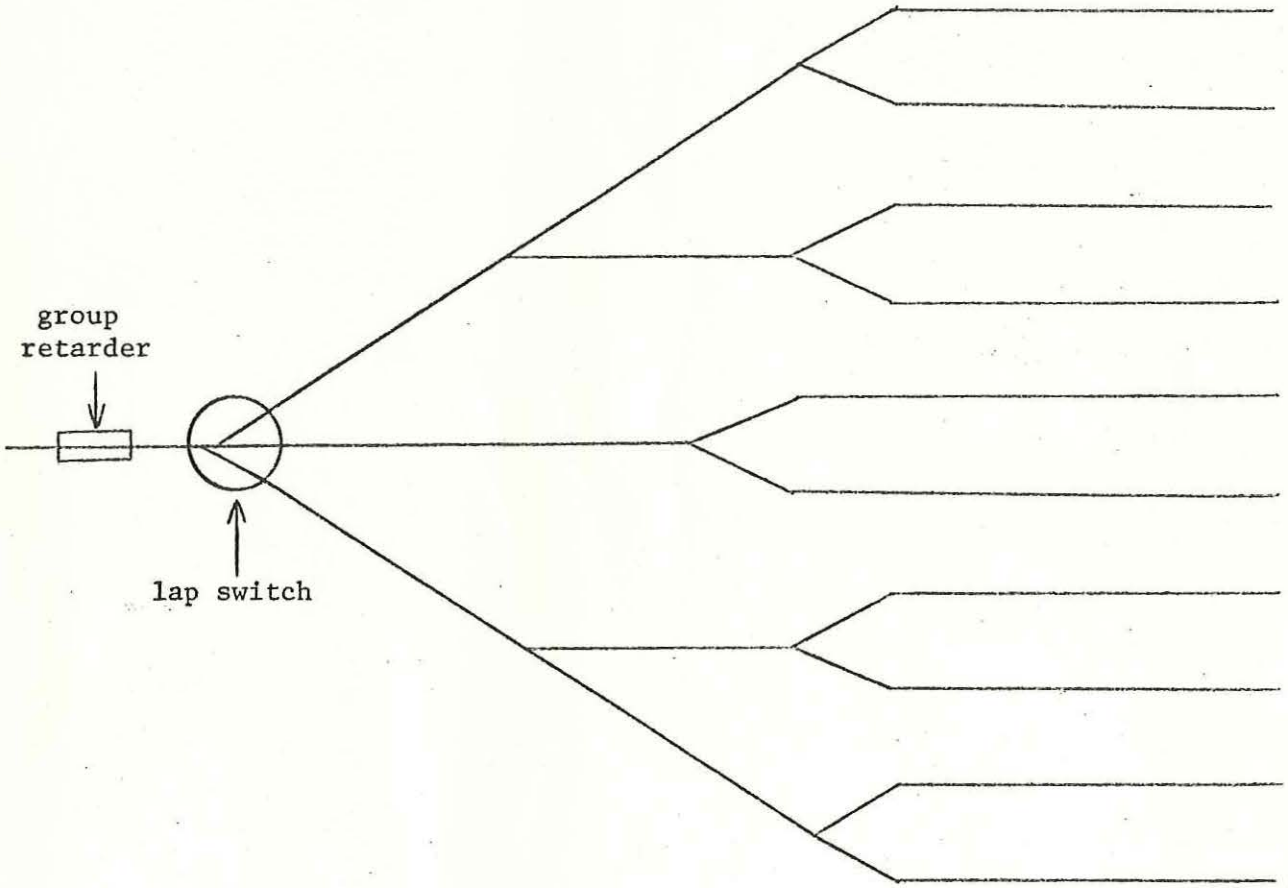


Figure 14

- Switch types: lap switch and split switches with lateral and equilateral turnout
- Application examples: Selkirk yard (Conrail)
  Columbus yard (Conrail)
  Proposed Yermo yard (UP)