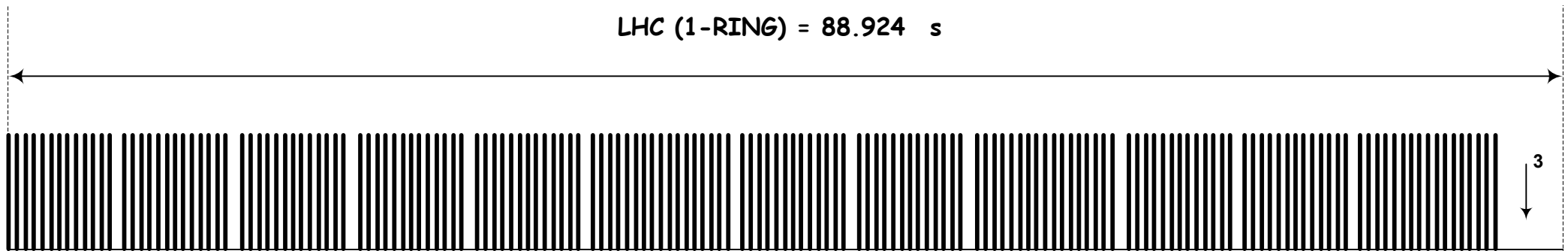
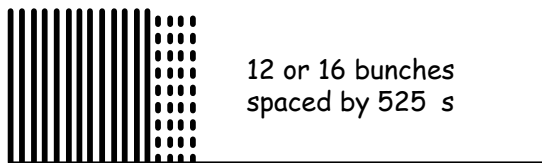


156 Bunch Pattern in the LHC for Totem Operation (and potentially for Initial Collision Commissioning)

LHC (1-RING) = 88.924 s

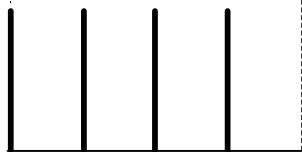


SPS = 7/27 LHC



12 or 16 bunches
spaced by 525 ns

PS = 1/11 SPS



4 Equidistant
Bunches
Spacing = 525ns

PS Injection Pattern

333 334 334 334

Filling Scheme

$$3564 = 3 \times \{ 3 \times [4 \times (b + 20e)] + 17e \} +$$

$$3 \times (2 \times \{ 3 \times [4 \times (b + 20e)] + 17e \} + \{ 4 \times [4 \times (b + 20e)] + 17e \})$$

$$+ 84e$$

Beam Gaps

- $1 = 525\text{ns}$ gap between adjacent bunches (525 ns).
- $2 = 950\text{ns}$ gap between adjacent injections into the LHC (Injection kicker rise time)
- $= 3050\text{ns}$ Beam Abort Gap.