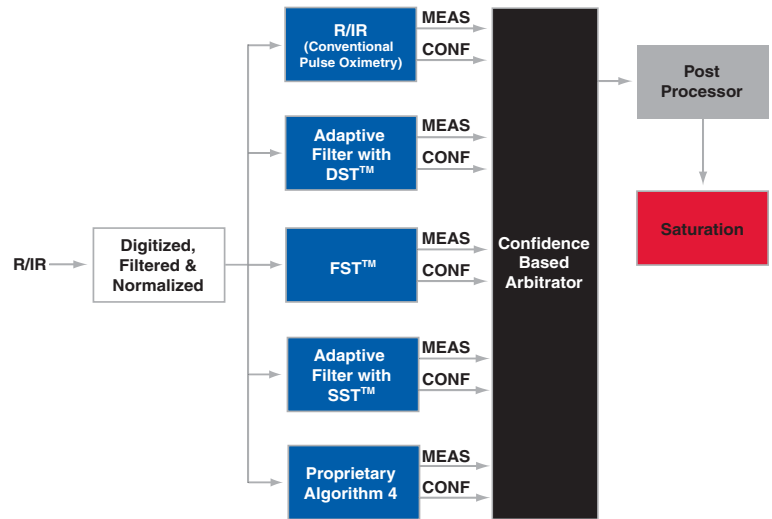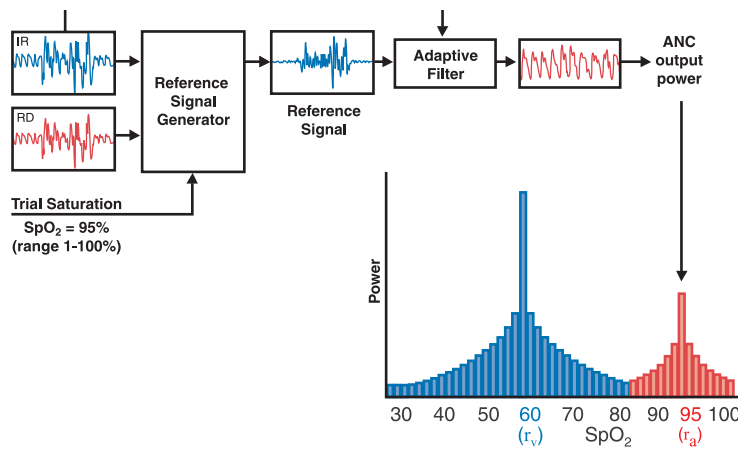# Masimo Charts

Pulse Oximetry Overview, Masimo SET® vs Tyco-Nellcor® and Philips®

How do Masimo SET pulse oximetry parallel engines work?

Masimo uses a highly sophisticated adaptive filter with DST® and four other parallel engines, to leverage each algorithm's unique strengths to ensure accurate readings through all patient conditions.

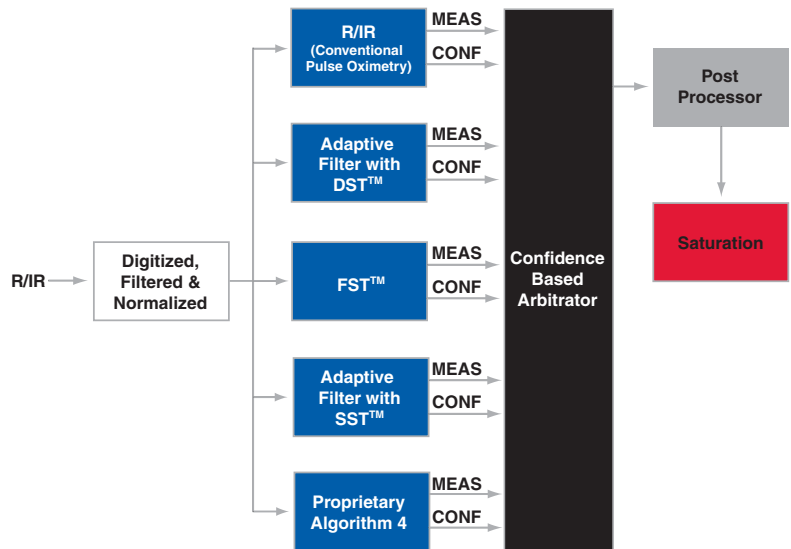### How does the Masimo SET DST algorithm work?

Masimo SET's most powerful algorithm is DST. All algorithms depend upon assumptions. The more assumptions, the weaker the algorithm. DST makes only one assumption – that arterial blood has a higher oxygenation than venous – making it the most powerful pulse oximetry algorithm.
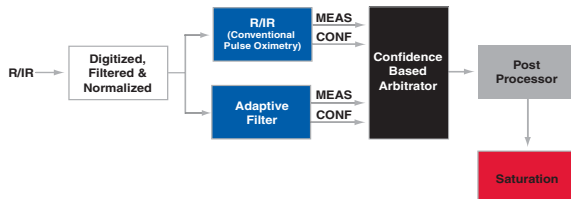
comparison of Masimo SET to other pulse oximetry algorithms

MASIMO SET

Masimo uses a highly sophisticated adaptive filter with DST and four other parallel engines, to leverage each algorithm's unique strengths to ensure accurate readings through all patient conditions.
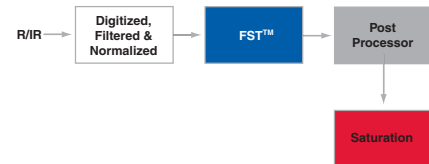
R/IR → Digitized, Filtered & Normalized →

R/IR (Conventional Pulse Oximetry) | MEAS / CONF

Adaptive Filter with DST™ | MEAS / CONF

FST™ | MEAS / CONF

Adaptive Filter with SST™ | MEAS / CONF

Proprietary Algorithm 4 | MEAS / CONF

→ Confidence Based Arbitrator → Post Processor → Saturation

Nellcor 404/506 (N-395/N-595)

R/IR → Digitized, Filtered & Normalized → R/IR (Conventional Pulse Oximetry) | MEAS / CONF → Adaptive Filter | MEAS / CONF → Confidence Based Arbitrator → Post Processor → Saturation

Nellcor uses a less sophisticated adaptive filter, not effective under many conditions, including persistent motion conditions.

Philips/HP Rev. B.0/C.0/C.1

R/IR → Digitized, Filtered & Normalized → FST™ → Post Processor → Saturation

Philips uses only a single frequency domain algorithm that is vulnerable to random and jerky motions and other patient conditions.

7270-3213D-1006