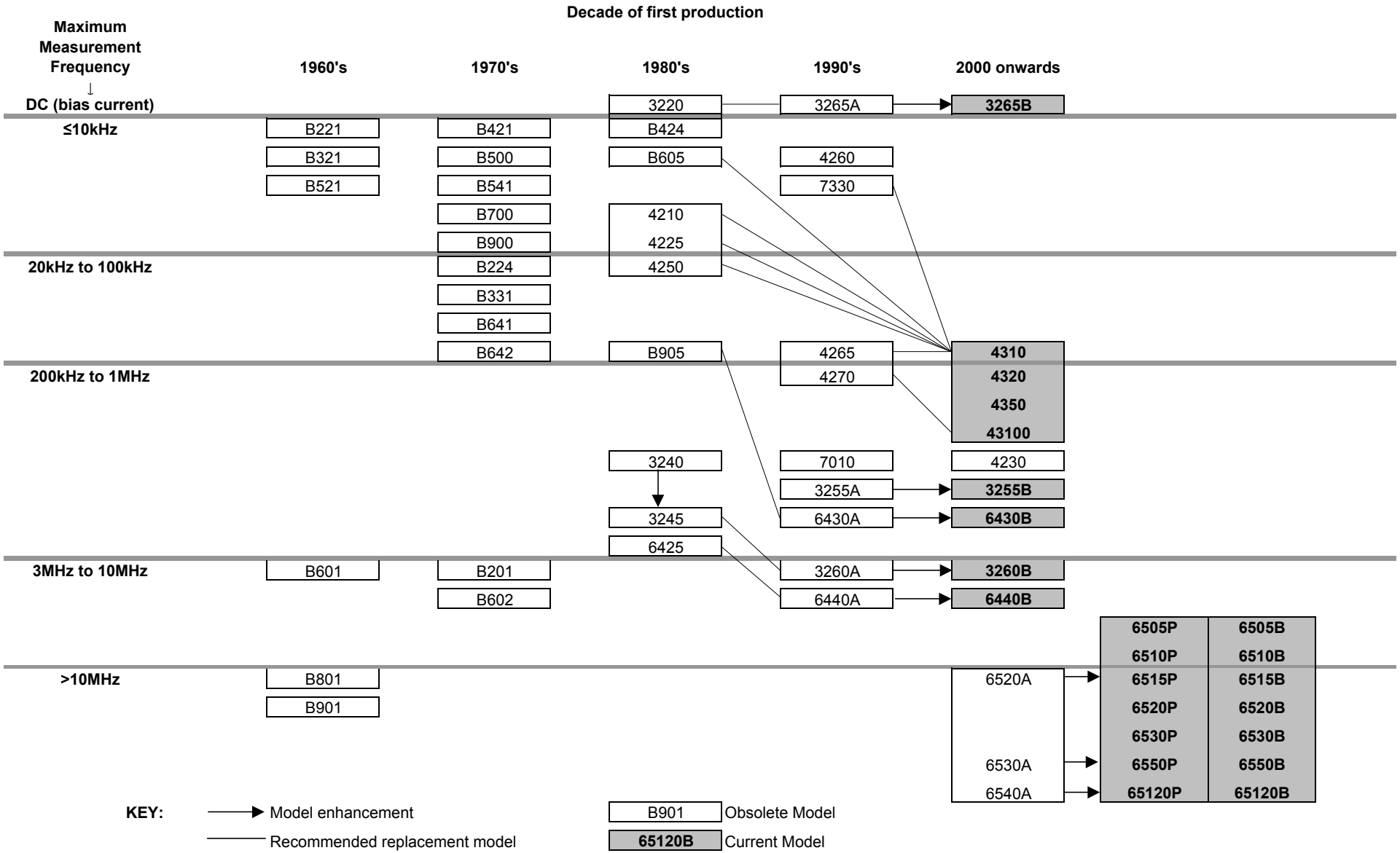WAYNE KERR MODELS OVER TIME