



US005812078A

# United States Patent [19]

[11] Patent Number: **5,812,078**

Przybysz et al.

[45] Date of Patent: **Sep. 22, 1998**

[54] **JOSEPHSON JUNCTION DIGITAL TO ANALOG CONVERTER FOR ACCURATE AC WAVEFORM SYNTHESIS**

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[21] Appl. No.: **861,732**

[22] Filed: **May 22, 1997**

[51] Int. Cl.<sup>6</sup> ..... **H03M 1/00**

[52] U.S. Cl. .... **341/133; 341/143**

[58] Field of Search ..... **341/133, 143, 341/171**

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### [57] ABSTRACT

A low noise accurate signal generator for a calibration system or a radar system includes a generator of a digital data stream having a predetermined frequency spectrum incorporated therein. A series connected array of Josephson junctions is coupled to and excited by the digital data stream to provide a stream of pulses with quantum mechanically accurate time integral. A low pass analog signal filter is coupled to the pulses of accurate time integral for extracting analog signals of the predetermined frequency spectrum. For radar applications, a low phase-noise local oscillator of a fixed RF frequency and the output of the filter are coupled to a signal mixer which outputs low phase-noise chirped RF signals for use in generating transmit pulses for the radar system whereby enhanced detection of targets in “clutter” can be obtained.

31 Claims, 1 Drawing Sheet

