We claim:

1. An analog signal source, comprising:

two or more digital-to-analog converters (DAC) combined to generate one or more frequency components, wherein the two or more DACs comprise a first DAC and a second DAC;

a first path for processing low frequency signals, the first path comprising the first DAC;

a second path for processing high frequency signals, the second path comprising the second DAC;

a data processor for processing an input signal and providing a direct current (DC) component of the input signal to the first path and an alternating current (AC) component of the input signal to the second path;

a combining circuit configured to combine outputs of the first and second paths into a source signal;

a feedback portion configured to sense the source signal; and

a servo loop configured to adjust the source signal to decrease differences between the source signal and the input signal by at least one of:

removing, by the servo loop, DC errors;

removing, by the servo loop, low frequency errors; and

maintaining, by the servo loop, the high frequency signals by preventing erroneous removal of portions of the high frequency signals.

2. The signal source of claim 1, wherein the providing the processed input signal to the first and second paths comprises at least one of:

feeding a DC input to the first path;

feeding a low frequency input to at least one of the first path and the second path; and

feeding a high frequency input to at least one of the first path and the second path.

3. The signal source of any one of claims 1 and 2, wherein the maintaining the source signal to substantially agree with the input signal comprises at least one of:

removing DC errors; and

removing low frequency errors; and

maintaining an integrity of the high frequency signals.

4. The signal source of any one of claims 1-3, wherein a bandwidth of the feedback portion is substantially higher than a bandwidth of the first path.

5. The signal source of any one of claims 1-4, wherein the sensing the source signal comprises comparing the input signal to the source signal.

6. The signal source of claim 5, wherein the processing of the input signal by the data processor comprises at least one of:

removing high frequency signals that are higher than a bandwidth of the first path but within a bandwidth of the feedback portion; and

removing high frequency signals that are higher than a bandwidth of the feedback portion and higher than a bandwidth of the first path.

7. The signal source of any one of claims 1-6, wherein the first path is configured for direct current (DC).

8. The signal source of any one of claims 1-7, wherein the feedback portion comprises at least one analog-to-digital converter (ADC).

9. The signal source of claim 7, wherein the data processor comprises ADC feedback and the processing of the input signal by the data processor comprises:

comparing the input signal to the source signal; and

removing from the input signal high frequency signals that are higher than a bandwidth of the first path but within a bandwidth of the feedback portion.

10. The signal source of any one of claims 1-9, where the second path is configured to accommodate at least one of:

more than one frequency; and

complex waveforms characterized by a plurality of frequency components.

11. The signal source of any one of claims 1-10, wherein the first path comprises an integrator.

12. The signal source of any one of claims 1-11, wherein:

the first path comprises a first gain configured to range the first path prior to combining with the second path;

the second path comprises a second gain configured to range the second path prior to combining with the first path; and

wherein the first and second gains are configured to operate independently of one another.

13. The signal source of any one of claims 1-12, wherein the feedback portion comprises signals from outside the signal source.

14. The signal source of any one of claims 1-13, wherein the first path comprises at least one of a dithering function, a sub-ranging function, and a pulse width modulation in series with the output of the second path.

15. The signal source of any one of claims 1-14, wherein the second path is configured to at least one of:

change a DC offset of the low frequency signals faster than a low frequency response time of the servo loop; and

change a DC offset of low frequency transient information faster than a low frequency response time of the servo loop.

16. The signal source of any one of claims 1-15, wherein every device in the signal source shares the same clock.

17. The signal source of any one of claims 1-16, wherein at least one of the first and second paths and the feedback portion comprises at least one of a phase shift and a group delay.

18. The signal source of any one of claims 1-17, further comprising a third path for generating substantially high frequency signals and wherein the combining circuit is configured to combine outputs of the first, second, and third paths into the source signal.

19. The signal source of any one of claims 1-18, wherein the outputs of the first path, second path, and feedback portion are accessible to a user via the data processor.

20. The signal source of any one of claims 1-19, wherein the signal source is used in conjunction with at least one of a voltage source, a current source, a power supply, a source measure unit, a temperature controller, a materials parameter measurement system, and a radio frequency (RF) source.

21. The signal source of any one of claims 1-20, wherein at least one of:

the combining circuit is configured to combine outputs of the first and second paths into more than one source signal;

the signal source is configured to operate as a controller for a source measure unit; and

the combining circuit is configured to combine outputs of the first and second paths into at least one harmonic signal.

22. A method of sourcing a signal, comprising:

providing an input signal to a data processor;

processing the input signal via the data processor;

sending a direct current (DC) component of the input signal to a first path and an alternating current (AC) component of the input signal to a second path via the data processor, the first and second paths comprising two or more digital-to-analog converters (DAC) to generate two or more frequency components, wherein the two or more DACs comprise a first DAC and a second DAC;

processing, via the first path, low frequency signals, the first path comprising the first DAC;

processing, via the second path, high frequency signals, the second path comprising the second DAC;

combining first and second path outputs into a source signal via a combining circuit;

sensing the source signal via a feedback portion;

providing, via the feedback portion, the sensed source signal to a servo loop; and

adjusting the source signal, via the servo loop, to decrease differences between the source signal and the input signal by at least one of:

removing, by the servo loop, DC errors;

removing, by the servo loop, low frequency errors; and

maintaining, by the servo loop, the high frequency signals by preventing erroneous removal of portions of the high frequency signals.