CLAIMS

1. ~~1.~~ A method of ~~creating~~operating a timed array from a plurality of phased arrays, the method comprising ~~the steps of~~:

phase steering each phased array to a desired ~~pointing~~direction;

applying processing to signals received from at least one of the phased arrays, wherein ~~-~~:

the signals have a signal bandwidth frequency, a symbol frequency, and a carrier frequency, and

applying processing to the signals comprises applying, based on a reference, an adjustment to the signals from at least one of the phased arrays~~, such that the processed signals are substantially aligned in time with the reference~~; and

combining the processed signals from each of the phased arrays~~;~~,

wherein ~~-~~:

the adjustment varies based at least in part on the desired ~~pointing~~direction and ~~the~~ relative location of the phased arrays~~.~~, and

~~2.~~ applying the adjustment comprises:

a gross time alignment to the order of the signal bandwidth frequency or the symbol frequency; and

a fine alignment as a phase shift of the carrier frequency.

2. The method according to claim 1, wherein the adjustment comprises a time delay and a phase adjustment.

3. ~~3.~~ The method according to claim ~~1 or claim~~ 2, wherein the ~~adjustments in~~ time delay and ~~or phase applied to each of~~ /or the phased ~~arrays~~adjustment are obtained from the processing of signal received from the phased arrays.

4. ~~4.~~ The method according to ~~any one of claims~~claim 1 ~~to 3~~, wherein the phased arrays are contiguous.

5. ~~5.~~ The method according to ~~any one of claims~~claim 1 ~~to 3~~, wherein the phased arrays are distributed.

6. ~~6.~~ The method according to ~~any one of claims~~claim 1 ~~to 5~~, wherein ~~the step of~~ applying processing to the signals requires no a priori knowledge of ~~the~~ temporal ~~difference~~differences between the signals received from each of the phased arrays.

7. ~~7.~~ The method according to ~~any one of claims~~claim 1 ~~to 5~~, wherein ~~the step of~~ applying processing to the signals includes correlating ~~the~~ information within each signal to ~~the~~ information in the each of the signals from each of the plurality of phased arrays.

~~8.~~ The method according to ~~any one of claims 1 to 5~~claim 1, wherein the ~~step of applying processing includes correlating to a predefined code embedded in each signal.~~

8. ~~9. The method according to any one of the preceding claims, wherein the~~gross time alignment is achieved by digital processing.

9. ~~10.~~ The method according to claim ~~9~~8, wherein the signals from each of the phased arrays are formed into a series of digital samples.

10. ~~11.~~ The method according to claim ~~10~~9, wherein the digital processing ~~including~~includes representing each of the signals from each phased array as a uniform series of digital samples ~~which can be delayed by a predetermined number of samples with respect to one another, or with respect to the reference~~.

~~12. A method of transmitting from a timed array created in accordance with the method of any one of the preceding claims, wherein the time and phase delays applied to each of the phased arrays are obtained from the processing of signal received from the phased arrays.~~