

**Apple Inc.**

**v.**

**DSS Technology Management Inc.**

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**Cases: IPR2015-00369 and IPR2015-00373**

**U.S. Patent No. 6,128,290**

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**Petitioner's Demonstratives**

# 290 Patent - Independent Claim 1

data network system for effecting coordinated operation of a plurality of electronic devices, said system comprising:

server microcomputer unit;

plurality of peripheral units which are battery powered and portable, which provide either input information from the user or output information to the user, and which are adapted to operate within short range of said server unit;

server microcomputer incorporating an RF transmitter for sending commands and synchronizing information to said peripheral units;

peripheral units each including an RF receiver for detecting said commands and synchronizing information and including also an RF transmitter for sending output information from the user to said server microcomputer;

server microcomputer including a receiver for receiving input information transmitted from said peripheral units;

server and peripheral transmitters being energized in low duty cycle RF bursts at intervals determined by a code sequence which is timed in relation to said synchronizing information.

**“...said server and peripheral transmitters being energized in low duty cycle RF bursts at intervals determined by a code sequence which is timed in relation to said synchronizing information.”**

# 290 Patent - Independent Claim 9

data network system for effecting coordinated operation of a plurality of electronic devices, said system comprising:

a server microcomputer unit, said server unit including an oscillator for establishing a time base;

a plurality of peripheral units which provide either input information from the user or output information to the user, and which are adapted to operate within about 20 meters of said server unit;

said server microcomputer incorporating an RF transmitter controlled by said oscillator for sending commands and synchronizing information to said peripheral units, said synchronizing information being carried by time-coded beacons characteristic of the particular server unit;

each of said peripheral units each including an RF receiver for detecting said commands and synchronizing information and including also a local oscillator, each of said peripheral units being operative in a first mode to receive said beacons independently of synchronization with the respective local oscillator when that peripheral unit is in close proximity to said server unit and to determine from the server unit its characteristics, each of said peripheral units being operative in a second mode to synchronize the respective local oscillator with

the server unit oscillator, each of said peripheral units also including an RF transmitter operative in a third mode for sending input information from the user to said server microcomputer,

said server microcomputer including a receiver for receiving input information transmitted from said peripheral units;

said server and peripheral transmitters being energized in low duty cycle RF bursts at intervals with said receivers being controlled by the respective oscillators.

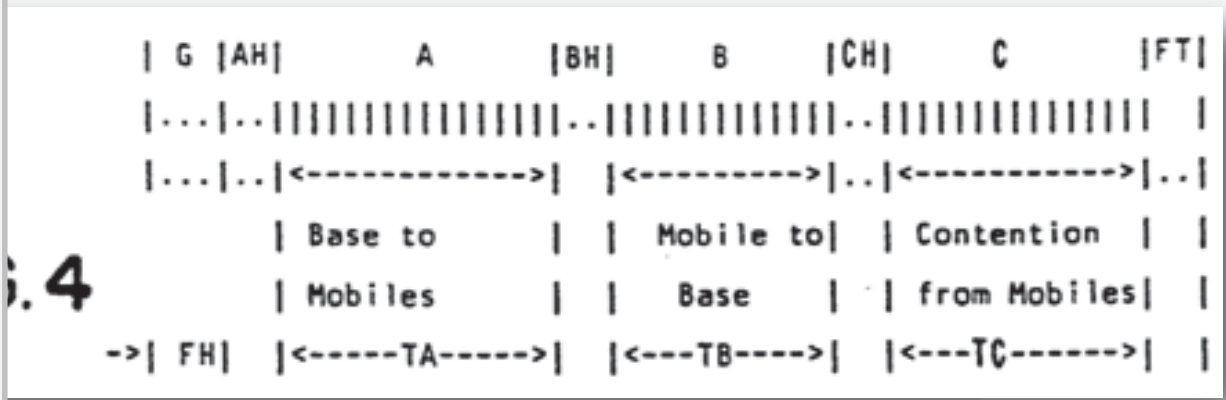
**“...said server and peripheral transmitters being energized in low duty cycle RF bursts at intervals with said receivers being controlled by the respective oscillators.”**

# 290 Patent (APL 1001) - Overview

## SUMMARY OF THE PRESENT INVENTION

The data network of the present invention utilizes the fact that the server microcomputer unit and the several peripheral units which are to be linked are all in close physical proximity, e.g., within twenty meters, to establish, with very high accuracy, a common time base or synchronization. The short distances involved means that accuracy of synchronization is not appreciably affected by transit time delays. Using the common time base, code sequences are generated which control the operation of the several transmitters in a low duty cycle pulsed mode of operation. The low duty cycle pulsed operation both substantially reduces power consumption and facilitates the rejection of interfering signals.

# Natarajan (APL 1003) - Overview



the scheme described here, a scheduled multiaccess protocol is used in which time is divided into fixed-length frames, and frames are divided into slots as shown in FIG. 4. It is to be appreciated that different frame divisions and header lengths and content may be used in the practice of the invention, and the scheme shown here is merely exemplary.

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