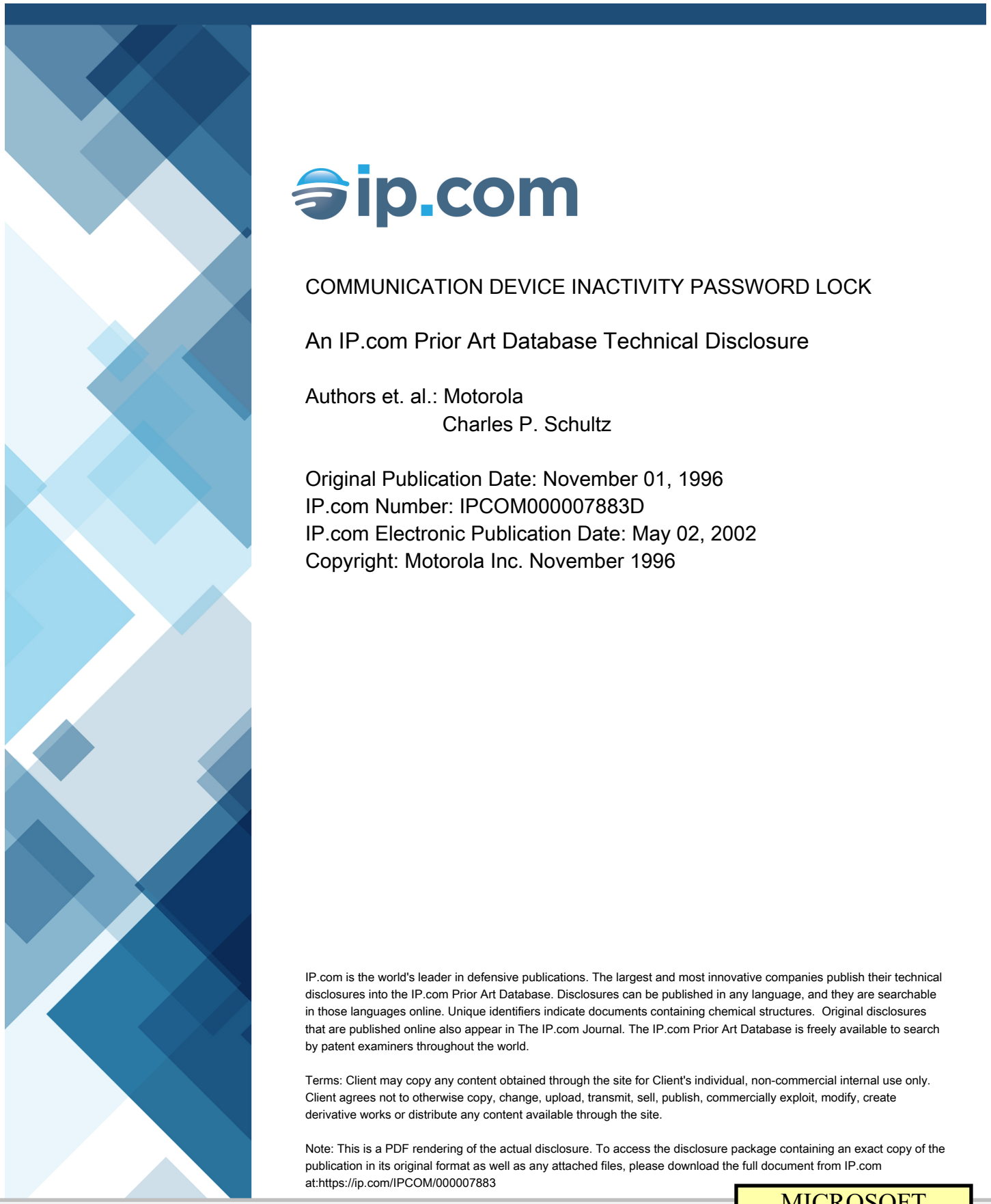

COMMUNICATION DEVICE INACTIVITY PASSWORD LOCK

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Authors et. al.: Motorola
Charles P. Schultz

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COMMUNICATION DEVICE INACTIVITY PASSWORD LOCK

by Charles P. Schultz

When a communication device (radio, phone, etc.), is misplaced or left unattended, someone other than the authorized user could use it, leaving the legitimate user responsible for the consequences, financial or otherwise. A password lock feature currrently allows users to "lock" their radios from use unless a correct password is entered, but this feature would not be activated when the device is accidentally misplaced, or the user hastily leaves his radio behind while attending to some urgent matter. An improvement over the current radio lock feature would be for the device to become locked after it is inactive for a preprogrammed period of time, similar to computer screen "locking" programs.

This invention allows the user to program an inactivity timer which would be reset each time a "physical input" occurs. If the timer expires, the communication device enters the "locked" mode and begins operation on a pre-programmed revert channel which is defined by one of the personalities stored in the device's memory. If the device is operating on a system that requires registration with a site, it will unregister prior to locking. The device optionally sends an over-the-air signal on the revert channel indicating the radio's ID and its "locked" status. This could alert a dispatcher to use a feature such as Remote Monitor to aid in locating a lost or stolen device. While locked, the device will not route any audio to its speaker. The device *will* receive and respond to over-the-air signaling, including an "unlock" transmission from the base station which can be used to assist users who have forgotten their passwords. The device is subject to the same unlocking procedure as the present radio password lock feature and, upon unlocking, it will register on the current site, if applicable. The device stores its locked state in non-volatile memory so it remains locked when power is cycled.

For the purposes of this feature, a wide variety of actions are classified as "physical inputs" so legitimate operation will not be interrupted. In addition to keypad, button and switch activation, receiving bus messages for memory reprogramming will reset the timer to insure that reprogramming will not be interrupted. A motion-sensing device and circuit could also be added to prevent the device from locking while it is being carried around in dispatch mode.

Some of the devices operating modes will inhibit the activation of the inactivity timer. In order to facilitate factory testing or field servicing of the device, the inactivity timer will not activate when it is in "test mode" or during rekeying. The timer will also remain inactive during Over-The-Air Programming (OTAP) and Over-The-Air-Rekeying (OTAR). To prevent interruption of critical transmissions, locking will be inhibited during Emergency feature transmissions, and during phone calls to emergency services such as 911.

Device Inactivity Password Lock

Charles P. Schultz

LOCKING SEQUENCE