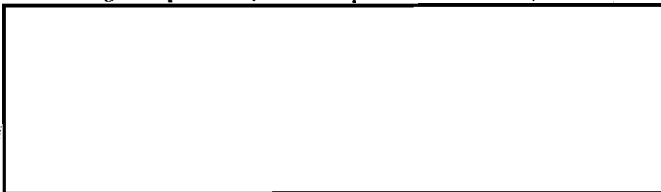


Fishing for HF Signals

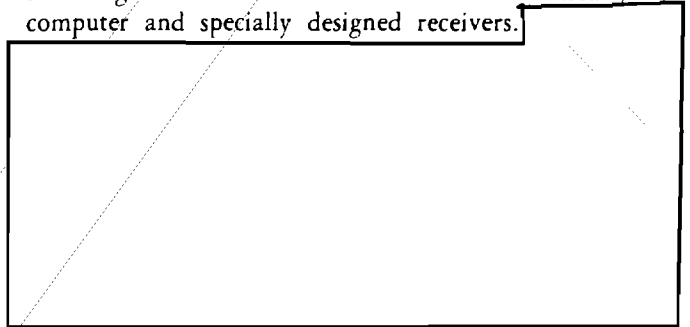
Now we have a system, [redacted] by name, that will search a wide frequency band in a split second and greatly reduce missed intercepts

(b) (3)-P.L. 86-36

Though it probably wasn't planned that way, there are



In broadest outline this is target search in its classic form. With [redacted] the difference is that much of the scanning and other routine is done automatically by computer and specially designed receivers.



So much for the somewhat forced comparison. What, really, is the system we call [redacted] Basically, it is a tool—a computerized tool—designed to help the intercept operator do his job better by performing some of his work for him. More specifically, [redacted] automatically scans the high-frequency part of the radio spectrum looking for signals of interest. When such signals are located—

[redacted] provides identification information and transfers the signals to a monitor receiver for checking by an operator. This operator decides whether the signal deserves further attention. If it does, it is passed to a regular intercept operator for copy; if not, it is rescheduled for later consideration or it is dropped.

Two fringe benefits are worth mentioning. First, the

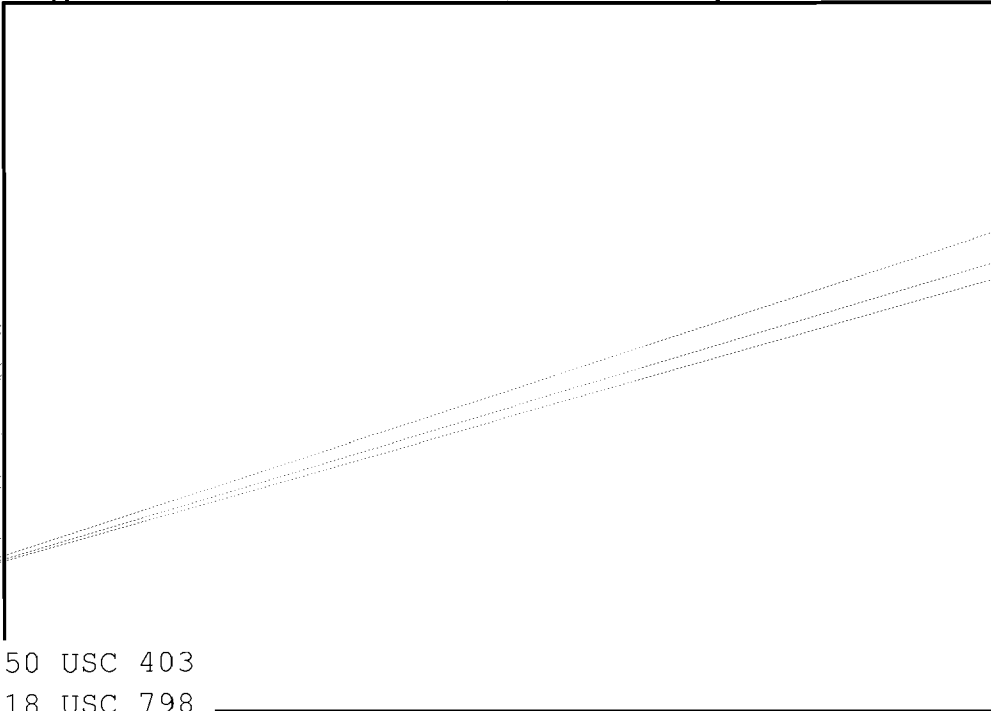
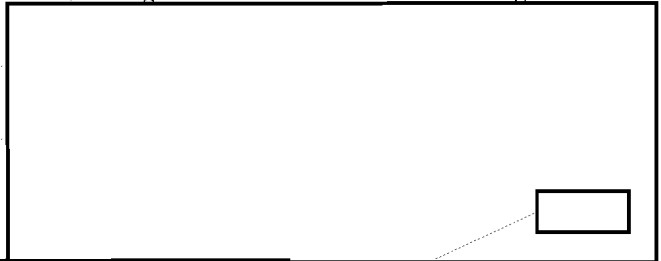
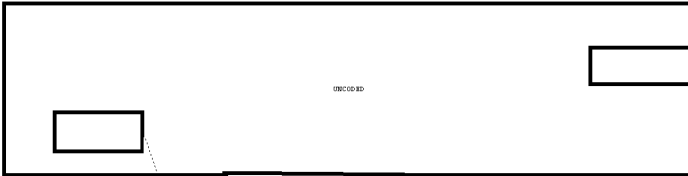


Fig. 1—Master Sgt. (b) (3)-P.L. 86-36 (left) and Senior Master Sgt. (b) (3)-P.L. 86-36 sit at monitor positions A and B of the [redacted] test installation at the [redacted]

Left to right: the computer, an input-output device to the computer, position A, the logging printer, and position B. The three racks above position A contain the scanning unit for both positions. To the right of position B (and beyond (b) (3)-P.L. 86-36) is the remote display unit (see Fig. 3).

(b) (1)
(b) (3)-50 USC 403
(b) (3)-18 USC 798
(b) (3)-P.L. 86-36



Work on

—began in 1964 as a part of the NSA Mission Coverage Control (MCC) Program for which K1 is the Office of Primary Interest.

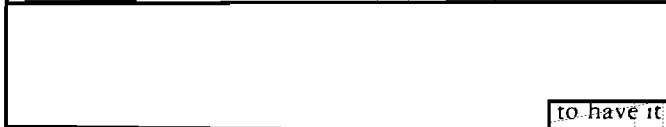
The words "a part of" are important, for [redacted] s but the first of several systems that will eventually make up the MCC Program. It represents an accommodation to the possible—at [redacted] a copy, it is neither as expensive nor as sophisticated as the "ultimate" MCC system, yet it includes many of the features of that system. And, perhaps most importantly, it is available now.

Its first field test was conducted at [redacted] For a period of six months the system was targeted mainly against a [redacted]

[redacted] Completed in February 1969, the test was, by all accounts, highly successful.

Operating in an entirely different signal environment,

[redacted] Here too the results seem to be good. Finally, a



[redacted] to have it by the end of FY75—subject of course to approval in the CCP.

(b) (3) -P.L. 86-36

How It Works

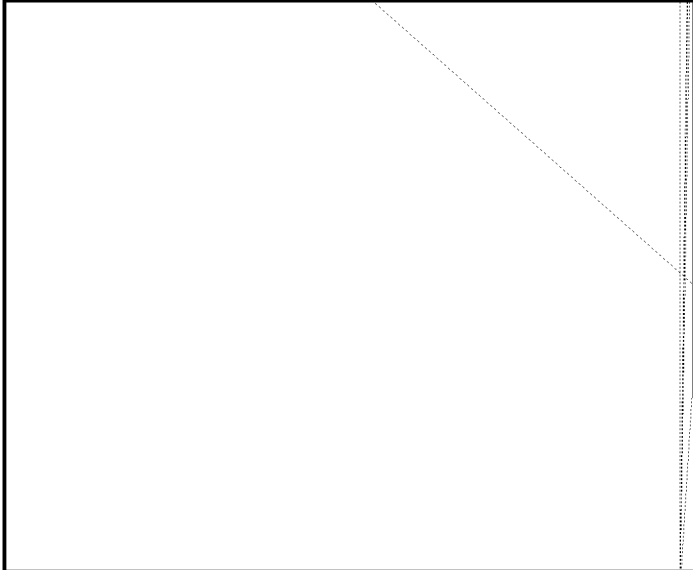


Fig. 2—Programming the Computer

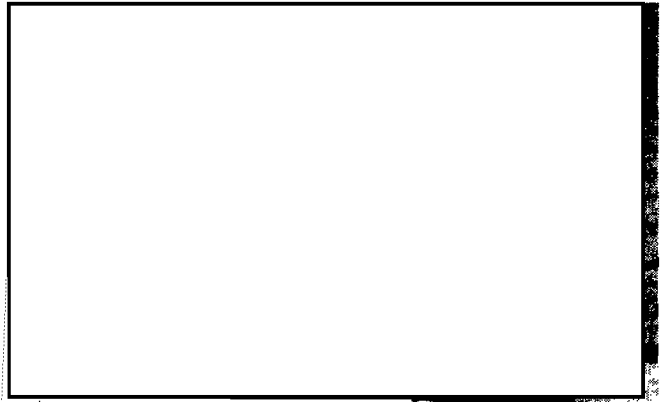


Fig. 3—[redacted] remote display unit. The two rows of numerals are intended to provide additional identifying information on the incoming signal. The top row of numerals relates to monitor position A; the bottom row, to monitor position B. In the display pictured above, the first digit of each row pertains [redacted]



frequency. For our purposes, the closer it stays on frequency the better, because we can then use the narrower

Although engaged professionally in the study of advanced communication techniques (b) (3) -P.L. 86-36 relaxes with radio in its earliest form, namely Morse brass-pounding in the best ham tradition. He began his career as a Navy intercept operator in the early post-war years, then became a Russian linguist, and by the mid-1950's [redacted]

[redacted] For six years he headed the trends analysis unit in K. He also does freelance writing and takes a hand in teaching the Agency's

(b) (1) ig courses.

(b) (3) -50 USC 403

(b) (3) -18 USC 798

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(b) (3) -P.L. 86-36

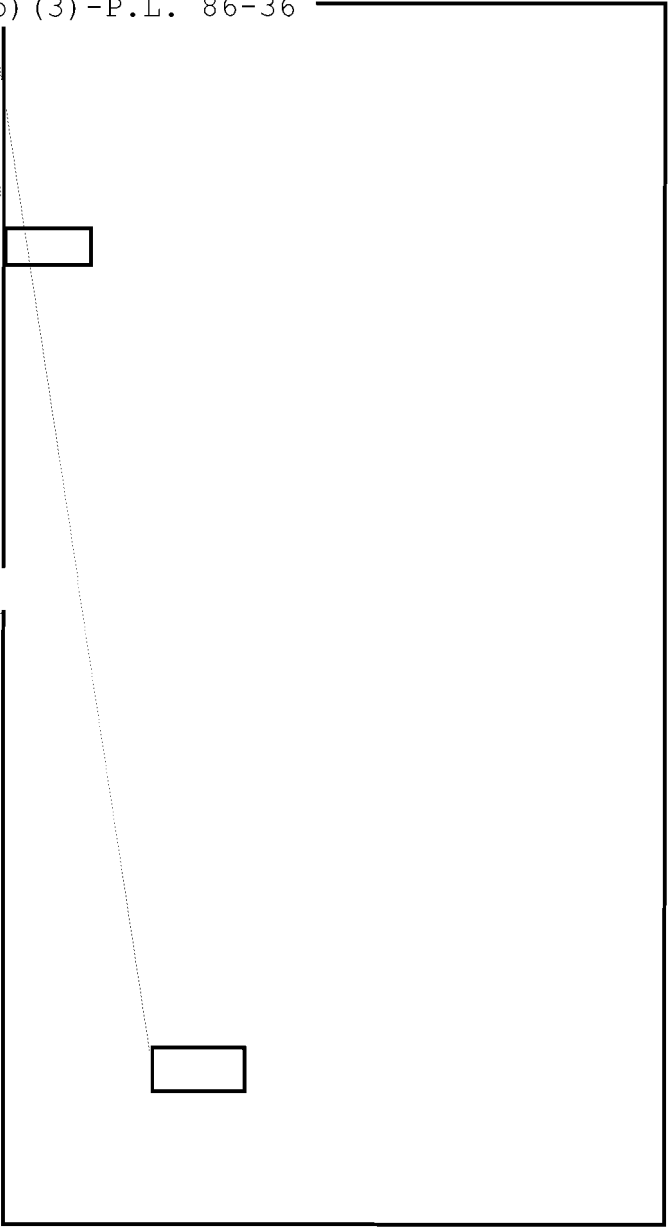
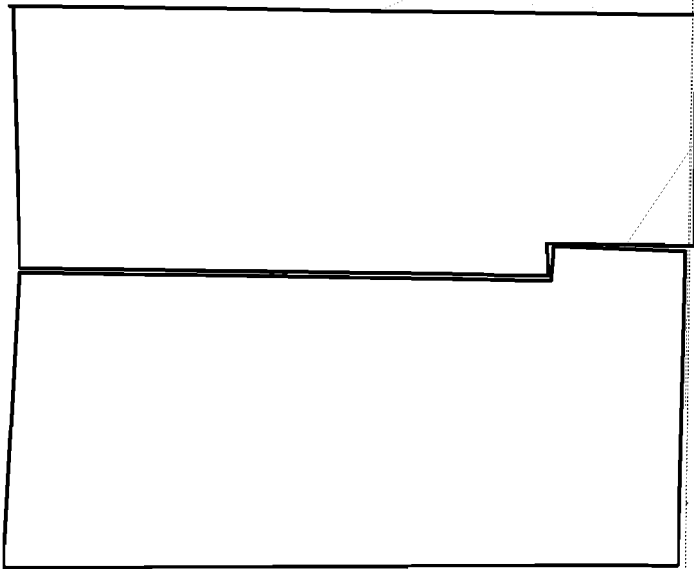
(b) (1)

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(b) (3) -P.L. 86-36

~~SECRET~~



[redacted]

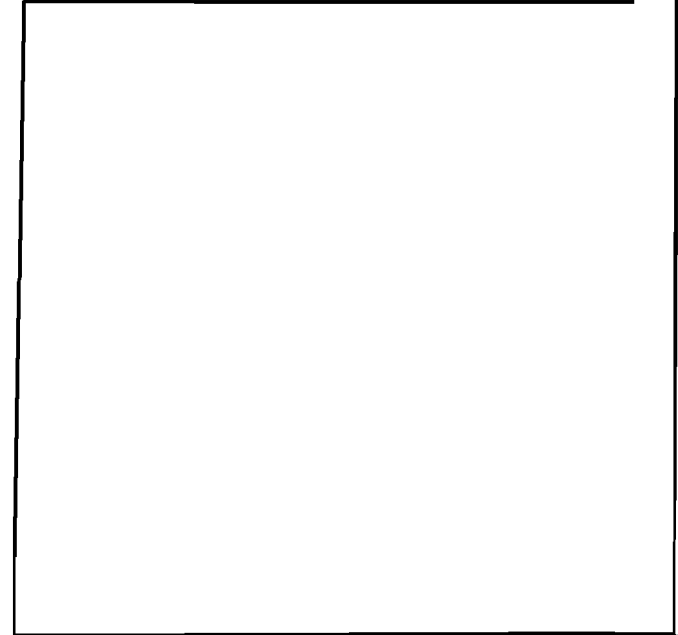
in Operation

(b) (3) -P.L. 86-36

A block diagram of the system is shown in Figure 4. The computer-controlled



. How long does this take? Only about as long as it took you to read one of the longer sentences in this paragraph.



Accessories

Two modules have been developed to further improve the system. One, the XR-2-144, in association with a



Information for this article comes from K15, the Collection Techniques and Systems Division. To that office, and especially (b) (3) -P.L. 86-36 and (b) (3) -P.L. 86-36 go the author's thanks.