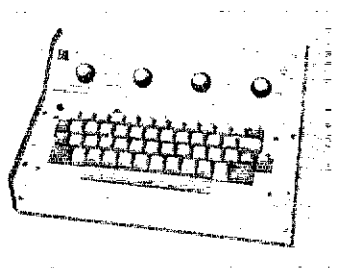




Recent Equipment



To acquaint you with the technical features of current amateur gear.



The **HAL** Communications DKB-2010 Dual-Mode Keyboard

A RATHER OBVIOUS prerequisite for the full enjoyment of RTTY operation is the ability to type effectively. However, even experienced touch typists often run afoul in their first encounters with conventional teleprinter keyboards. (This is perhaps truer of earlier mechanical models, but newer electric types are often difficult to obtain by amateurs.) Many mechanical and electric keyboards require a well defined rhythm in order to avoid pressing the next character key while the previous one is depressed. Otherwise, only the first character will be sent. When sending a number, a special key has to be depressed ahead of a numeral key (equivalent to a carriage shift in ordinary typing) and a similar process repeated when returning to a letter-character format.

Needless to say, only the stout-hearted have the perseverance to learn fundamental typing skill and master the peculiarities of teleprinter keyboards at the same time. The HAL Communications DKB-2010 Dual-Mode Keyboard eliminates much of the frustration of the latter problem. Operation is very similar to an ordinary electric typewriter since the more cumbersome functions associated with teleprinter keyboards are accomplished automatically by the machine. Numbers can be typed directly because the proper figure-shift signal is sent whenever a numeral key is depressed. When the next letter-character key is depressed, the machine sends a letter-shift signal first. No special rhythm is required since one or more keys can be

down simultaneously without impairing operation. If another key is depressed, the letter will be typed correctly.

Other features of the RTTY mode are standard speed options of 60, 66, 75, and 100 wpm. Also, 132 wpm can be obtained on special order. Speeds can be selected by means of a switch on the keyboard panel. When the end of a line is reached (approximately 64 characters and spaces) a tone beep is heard and a continuous light tells the operator to send a carriage-return and line-feed signal. Also included are an identifier and test-message generator. The identifier can be pre-programmed with the station call (up to 12 characters).

The Extended Memory Option

HAL also offers an extended memory option for the DKB-2010. Two models are offered which extend the memory from the three keystrokes in the basic keyboard to either 64 or 128 keystrokes. Consequently, if one's typing ability is greater than the sending speed being used, it is possible to type ahead by as much as two lines with the 128-keystroke model. However, the operator has to know when to punch a line-feed and carriage-return since the line counter only indicates when a line is sent and does not include the characters still in the memory. Determining the point to start a new line is not such a problem when copying from a text, but is harder when no reference point is available. This would occur during an ordinary QSO where the operator was typing from memory, but only the more proficient operators would be able to get ahead so far that finding the spot to start a new line would cause difficulties. It is also possible to store characters in the memory and then run them off at a later time. Here again, a problem of where to start a new line occurs with the 128-keystroke model but not with the 64-keystroke one. HAL informs us that a modification is available which causes the warning light to come on at half brilliance when 64 characters have been sent. With some early keyboards, the audio output from the monitor speaker is somewhat low: a modification is available to improve this condition. Anyone who is interested in these modifications is asked to get in touch with the factory.

Installing the extended memory option in the DKB-2010 is a relatively simple process. The memory consists of a single printed-circuit board and an adapter which plugs into the main circuit board used for the key contacts. (See Fig. 1.) No difficulties were encountered when the writer installed the modification.

Other Features

Both manuals for the main keyboard and the extended memory option are well written and contain complete schematic diagrams and explanations of the various circuits incorporated into each unit. The keyboard is compatible with other HAL products. (See Recent Equipment in *QST* for April, 1973.) It is also compatible with other terminal units and teleprinters commonly available. Loop connections provide options for use with either positive- or negative-grounded loop power supplies. Loop currents up to 80 mA can be used and the maximum voltage permitted across the loop connection of the keyboard is 250. -- *W1YNC*

"Morse" Operation

The international cw code we all use isn't exactly Sam Morse's code, but the term seems to have been generally adopted by industry, government, and the fraternity, so we'll refer to it as Morse. In Morse operation, then, the DKB-2010 keyer has all the operating features that the average cw man could desire and, with the built-in extended memory option, all the features most *anybody* could desire. It has an easy touch similar to modern electric typewriters, a standard keyboard with some extra character availabilities useful to amateur operators, a sidetone monitor so you can listen to your keying if desired, speed control from less than 10 to over 60 wpm, weight control to suit your taste, and an "auxiliary" key which can be constructed to trigger any special output you select. Without the extended memory option, it contains a 3-character memory and space bar so that you can type ahead of what is actually coming out and thus assure perfect spacing. With the extended memory option it can store 64 or 128 keystrokes, depending on which option model you select, and these can either be stored and released at will, or stored in advance while being sent. The "EMO" can be installed at purchase or later by the purchaser if desired.

Operating the board takes a little getting used to, just like operating any new typewriter. Unlike a typewriter, however, it is perfectly quiet, except for the sidetone, which can be turned off, and the tapping of the fingers on the keys. When first turned on, the identifier circuits of the keyer may be in operation, so you should activate the keyer off the air.

When the keyer clears itself (ten seconds or less) you are ready to go. This operator found that the best keying method was to type each word or group ahead of the output, then wait for the output to catch up before going on to the next word or group. Care must be exercised to avoid getting more than three characters ahead, since without the built-in EMO the unit has only a three-character memory. Since this operator's typing is not very steady, it seemed easier simply to allow a space at the end of each word before going on to the next. However, this is a personal preference, and the space bar may be used to insure that at least normal spacing occurs between words. With the EMO, of course, it's a slightly different ball game, because with this you can type as far ahead as you please (practically speaking), using the space bar normally, and the code will flow perfectly from the keyer output. ("Perfectly" includes reproducing your typing errors perfectly, too!) There is no indicator to tell you how much is stored in the memory, but a red light indicates when the buffer is full.

With the EMO installed, a few extra functions have to be performed to operate the buffer. These are simply a matter of pressing proper key combinations, and quickly become second nature for such operations as clearing the buffer, stopping the flow of characters, and releasing stored characters to the output.

The output of the keyer will handle either grid-block or cathode keying. Voltage and current capacities on both are sufficient to handle those normally present in such circuits, with quite a bit of leeway. -- *W1NJM*

The HAL Communications DKB-2010 Dual-Mode Keyboard

Dimensions (HWD) and Weight:

5-3/4 × 13-1/4 × 9-1/2 inches, 8 pounds.

Power requirements: 117 V ac.

Price class: Basic keyboard, \$425 assembled and \$325 in kit form. Extended memory option, \$100 for 64-key model and \$150 for 128-key model.

Manufacturer: HAL Communications Corp., Box 365, Urbana, IL 61801.

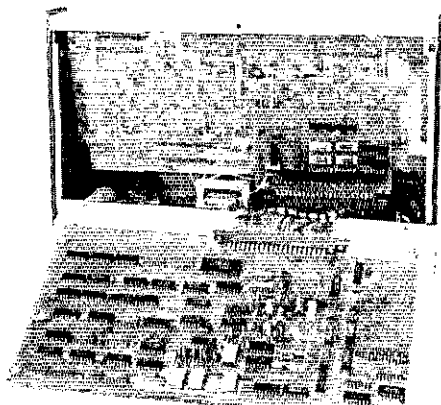


Fig. 1 — Interior view of the DKB-2010. Note the extended-memory option circuit board atop the edge-pin connector.