DS3100 ASR

AUTOMATIC SEND-RECEIVE TERMINAL

The DS3100 ASR is an electronic communications terminal for transmission and reception of coded communications using either the Baudot or ASCII teleprinter codes or the Continental Morse telegraphy code. The DS3100 is microprocessor controlled and provides many features to assist the operator. In particular, the DS3100 is the *first* multi-code terminal to provide full buffering of received and transmitted text, thus allowing composition of transmit text *while receiving.* This is the so-called "Automatic Send-Receive" (ASR) or "Buffered Send-Receive" (BSR) type of telecommunications terminal. The DS3100 also features programmable identification messages (a total of ten), internal real-time clock, on-screen display of the terminal status, an answer-back system for *all three codes,* and full keyboard control of the terminal as well as many many more conveniences. Particular attention has been given to the display and keyboard design to make for convenient and enjoyable operation. All terminal control functions are clearly marked on the custom triple-legend keytops, and the terminal's operating condition is clearly shown by on-screen *status indicators.* The DS3100 includes a new green P31 phosphor screen for ease of viewing. Try the DS3100 ASR for yourself and enjoy the operating features and convenience.

DS3100 ASR

SPECIFICATIONS

Input/Output:

Baudot: 18-120 ma / 200 V current loop
RS232C voltage levels

ASCII: 18-120 ma / 200 V current loop
RS232C voltage levels
Full 25 pin Modem connection

Morse: 0.5v p-p (600 ohm), 800 Hz audio input.
Transistor switches to ground to key either negative voltage ("grid-block") or positive voltage ("cathode") circuits simultaneously.

Data Rates:

Baudot: 45, 50, 57, 74, 100 baud (60, 66, 75, 100, 132 wpm)

ASCII: 110, 150, 300, 600, 1200, 1800, 2400, 4800, 9600 baud (10, 15, 30, 60, 120, 180, 240, 480, 960 cps)

Morse: Receive: automatically track 1 to 199 wpm
Transmit: preset to 1 to 199 wpm in 1 wpm increments

Data Codes:

Baudot: 7.5 Unit code (1 start, 5 data, and 1.5 stop)
A - Z, $\emptyset$ - 9, -?:$!&#'().,BELL;/" LTRS FIGS CR LF
Space Blank; Automatic FIGS/LTRS and CR/LF inserted as required.

ASCII: 110 baud: 11 unit code (1 start, 8 data, 2 stop)
150 - 9600 baud: 10 unit (1 start, 8 data, 1 stop)
A - Z (upper and lower case or upper case only), $\emptyset$ - 9, !"#$ %&'()*+,-./:,<>=?@[]^_'{||~\, NUL SOH STX ETX EOT ENQ ACK BEL BS HT LF VT FF CR SO SI DLE DC1 DC2 DC3 DC4 NAK SYN ETB CAN EM SUB ESC FS GS RS US RUB OUT

Morse: Continental Morse Code: A - Z, $\emptyset$ - 9, .,?:;-'/()" AR AS BT ES KN SK

Transmit Modes:

CONT: Continuous mode; characters are transmitted as they are typed.

LINE: Line mode; text is transmitted in complete lines, allowing editing of each line before transmitting.

WORD: Word mode; text is transmitted one word at a time.

ASR: All transmit text up to 50 lines may be precomposed and edited *while receiving* and transmitted at will; reverts to CONT, LINE or WORD modes after all precomposed text is transmitted.

FD/HD: Full-Duplex or Half-Duplex operation; full-duplex allows *simultaneous active* receive and transmit operations.

Display Screen:

Format: 72 characters per line, 24 lines total; 12 lines receive and 12 lines transmit buffer display or all 24 lines receive buffer display. 5 × 7 dot matrix, Green P31 phosphor, 12 inch diagonal measure CRT.

Text Buffering:

Receive: Up to 150 lines of storage of received text. Screen shows selected 12 (or 24) line segment of buffer with line numbers. In half-duplex, transmitted text is echoed into receive buffer as it is transmitted and displayed with "dim" intensity; full duplex transmit text is not echoed into the receive buffer.

Transmit: Up to 50 lines of transmit text may be precomposed and stored in the transmit buffer. 12 lines of the buffer may be displayed with line numbers and screen position in the buffer may be changed. Transmit buffer may be pre-typed at any time with full edit features; selected lines of receive buffer text may be copied into the transmit buffer.

Local Output:

Printer Output: Transmitted and received data is echoed out this port in ASCII code at RS232C voltage levels, regardless of the code being operated. Normally set to 300 baud, the data rate can be slowed internally to 110 baud.

Sidetone: Sidetone audio in Morse transmit mode. Also serves as a bell tone. Volume is adjustable at the back panel.

Programmable Messages:

HERE IS: Up to 10 different, 32 character HERE IS messages may be programmed and inserted into the transmit text as desired. HERE IS programming may include calls to other HERE IS segments, QBF test message, KY switch control and other features. The contents of HERE IS-1 and HERE IS-$\emptyset$ are permanently saved in the non-volatile EAROM device.

IDENT: IDENT key transmits contents of HERE IS-$\emptyset$ in Morse code, regardless of the selected terminal code. IDENT may be called from a HERE IS message.

WRU: Up to a 10 character WRU recognition text may be programmed. When the recognition text is received, switch KY1 is activated, HERE IS-1 transmitted, and KY1 deactivated with a delay before and after the HERE IS-1. Reception of the ASCII ENQ (or WRU; $\emptyset\emptyset\emptyset\emptyset1\emptyset1$) will also trigger the WRU response. WRU may be used for automatic control of accessories such as tape recorder or transmitter.

EAROM: EAROM (Electrically Alterable Read Only Memory) storage allows semi-permanent storage of critical parameters when power is disconnected. The contents of HERE IS-1, HERE IS-$\emptyset$, WRU code message, and terminal CODE, RATE, MODE, USOS, and SYNC status are all stored. Upon power application, the EAROM status and messages are set in the DS3100. The operator may change the parameters or the EAROM storage at will.

TIME: Internal clock keeps time (24 hour format); an additional 16 characters may be programmed to give zone, date, or other information with the time. The TIME can be inserted into the transmit buffer or called from a HERE IS message.

Deluxe Features:

Word wraparound Full non-overprint; will not split a word at end of line.

USOS On Baudot reception, reverts to LTRS case after reception of each SPACE character.

SYNC Synchrounous idle to assist other station's reception. Fills time between transmitted characters with LTRS (11111) in Baudot, NUL ($\emptyset\emptyset\emptyset\emptyset\emptyset\emptyset\emptyset\emptyset$) in ASCII, and BT (-...-) in Morse.

CAPLK Allows transmission of only capital letters or of both upper and lower case letters in ASCII code only. Upper or lower case letters are displayed as received.

KOS Keyboard Operated Switch to control the transmit-receive circuitry of a radio installation.

KY1, KY2, KY3, KY4 Accessory switches that may be turned on or off by keyboard control or included in HERE IS message programs. KY4 is also controlled by the WRU response sequence. KY switches may be used to control external equipment.

Status Indicators Key parameters or conditions of the DS3100 ASR are shown by 13 on-screen Status Indicator messages. Included are: TIME, CODE, RATE, MODE, USOS, SYNC, XMIT Buffer Status, WRU, KY 1234, FDX/HDX, CAP LK, IDENT, and PROG. The indicators occupy the far right-hand seven screen locations.

Keyboard Arranged in a standard 52 key ASCII / typewriter format with SHIFT, CTRL, and FN keys. All terminal parameters are keyboard controlled by the FN plus second (or third) key. FN operations are shown by special front face legends on the keytops. Keyboard also features high-reliability keyswitches and N-key rollover.

Test Messages The standard QBF test message (THE QUICK BROWN FOX JUMPS OVER THE LAZY DOG'S BACK $\emptyset$123456789) or alternate code patterns (RYRY in Baudot, U*U*U* in ASCII) may be transmitted with FN keys.

Mechanical Data:

Size: 13.5" W × 20.5" D × 15.25" H; 45 lbs net, 60 lbs ship (34.3 × 51.2 × 39.4 cm; 20.4 kg net, 27.2 kg ship)

Colors: Castle tan and Chocolate Brown with color coordinated keytops and green characters on screen.

Power: 105-130 vac 50/60 Hz; 210-250 vac 50/60 Hz; 70 watts

A written copy of the applicable warranty may be obtained free of charge upon request. Specifications subject to change without notice.

HAL COMMUNICATIONS CORP.
Box 365
Urbana, Illinois 61801
217-367-7373