



**Livermore**  
DATA SYSTEMS INC.

**71 Series  
Data Modems**



SEP 18 1974

- Acoustic and/or Direct Coupling
- Full or Half Duplex
- Answer and/or Originate
- The Complete Family of 300 Baud Data Modems
- Quality Performance at Competitive Prices.



**ACOUSTIC AND DIRECT COUPLED DATA MODEMS**

- **Compatible:** With the WE 103 and 113 A/B Data Sets and/or with Bell Systems Data Access Arrangement (DAA) and systems utilizing EIA RS232 Interfaces; TTL Logic; and Teletype® systems operating in Full or Half Duplex modes.
- **Economical:** Six models allow selection on a cost/performance basis.
- **Reliable:** Conservatively designed circuitry utilizing solid state and integrated circuits providing long-term stability and ultra-reliable operation.
- **Durable:** High impact resistant case and hand soldered printed circuit cards combine to minimize the possibility of physical damage.
- **Flexible:** Plug-in circuitry facilitates convenient addition of special features tailored to system requirements - or repackaging for OEM applications.
- **Local Operation:** "Local" operation allows data from most peripheral devices to be checked before transmission.
- **Easy To Operate:** Equipped with automatic carrier detect circuitry, data transfer indicator, and photocell lockout.

**DESCRIPTION**

The Livermore "71 Series" data modems and acoustically coupled data sets are designed to operate in either the full or half duplex modes and are equipped with carrier detect circuitry.

The carrier detect circuitry inhibits the output circuit to the terminal and - in the originate mode - the transmitted tone, if an adequate signal is not being received. This eliminates typewriter chatter prior to establishing a valid communications link.

Acoustically coupled models incorporate a special lock-

out circuit that prohibits the carrier detect circuit from being actuated prior to placing handset in acoustic cups.

For ease in operation indicators are provided to display:

1. The detection of the received carrier
2. Power ON/Data-Transfer (The purpose served by the Data-Transfer indicator is that - on terminals containing internal logic - it is possible to visually determine if the terminal is being polled.)

New filter and FM detection techniques produce optimum reliability and signal detection in the presence of noise.

**MODEL 71 SERIES BASIC SPECIFICATIONS**

<b>Data Rate:</b>	Greater than 300 Baud	<b>Switches:</b>	Duplex; Full/Half/Local Copy Coupling: DAA or Acoustic Answer or Originate Power ON/OFF
<b>Operating Frequencies:</b>	Originate: Send - 1070 Hz/Space and 1270 Hz/Mark Receive - 2025 Hz/Space and 2225 Hz/Mark Answer: Send - 2025 Hz/Space and 2225 Hz/Mark Receive - 1070 Hz/Space and 1270 Hz/Mark  International (CCITT) frequencies available.	<b>Indicators:</b>	Power ON/Received Data Received carrier detected.
<b>Modulation:</b>	Frequency Shift Keyed	<b>Handset:</b>	Western Electric Company Series 500 Telephone Set or equal.
<b>Frequency Stability:</b>	±0.3 percent.	<b>Direct Attachment Arrangement:</b>	(DAA) Western Electric Company Type CDT or equal.
<b>Receiver Sensitivity:</b>	Acoustically coupled - minimum of -50 dBm. Direct Access Arrangement (DAA) - minimum of -50 dBm.	<b>Leased Lines:</b>	DAA versions may be used on leased lines without requiring protective device.
<b>Transmit Level:</b>	Acoustically coupled - -15 dBm. Direct Access Arrangement (DAA) - -10 dBm.	<b>Line Impedance:</b>	Nominal 600 ohm.
<b>EIA Interface:</b>	Compatible with RS232 specifications.	<b>Operating Temperature Range:</b>	50°F to 105°F
<b>Teletype Interface:</b>	20 milliampere full duplex loop standard. 60 milliampere half duplex loop option- ally available.	<b>Case:</b>	High impact resistant Kydex® plastic color coordinated to blend in with any sur- roundings. 11-1/8" L x 4-1/4" H x 6-1/2" W
<b>TTL Interface:</b>	Available as Option.	<b>Power Input:</b>	117 V AC, ±10 percent, 60 Hz. Four to eight watts depending on model. (Other input voltages and frequencies option- ally available.)
		<b>Weight:</b>	Six to eight pounds depending on model.
		<b>Warranty:</b>	One year on parts and labor.

MODEL	ACOUSTIC	DAA	ORIGINATE	ANSWER	COMMENT	LIST PRICE
71B	X		X	*	Low cost portable	\$235.00
71C	X		X	X	Low cost portable	325.00
71E		X	X	*	Fixed location operation	290.00
71F		X	X	X	Fixed location operation	350.00
71H	X	X	X	*	Fixed location or portable	325.00
71J	X	X	X	X	Fixed location or portable	385.00

\* Answer only operating mode - SPECIFY WHEN ORDERING

**OPTIONS**

TTL INTERFACE	\$ 5.00	EIA CABLE	\$15.00
INVERTED CODE - SPECIFY WHEN ORDERING	5.00	TTY CABLE 8' - SPECIFY TYPE	15.00
60 MA HALF DUPLEX - TTY LOOP	10.00		