Computer Interface Board

The Computer Interface Board option for the RC-850 Repeater Controller supplies a variety of resources for hardware expansion of the controller, including

- Four serial I/O ports
- Socket for 300/1200 baud FSK MODEM chip – AMD 7910
- Secondary Touch-Tone decoder with 8-input multiplexer
- Two 4x4 audio cross-point switches
- Additional general purpose logic I/O
- EPROM socket for firmware expansion to total of 96K bytes

The Computer Interface Board mounts inside the RC-850 controller cabinet, between the Telephone Interface Board and the main controller board. It connects to the main controller board with a 34 pin ribbon cable (supplied). It forms part of the planned long-term upgrade path for the controller.

Serial Ports

Two serial I/O ports are implemented with Zilog's Z8530 Serial Communications Controller (SCC). These ports are buffered for RS-232 level interfaces. The SCC supports both asynchronous and synchronous (HDLC) formats. Version 3 firmware supports asynchronous communication with terminals, and computers running terminal emulation software or other applications software which can make use of the serial interface to the controller. Baud rates of 300 to 9600 baud are supported.

Two additional RS-232 serial ports are implemented in software, for dedicated interface to peripheral equipment as determined by the controller's firmware.

MODEM Chip

A socket is provided for use with the AMD 7910 FSK MODEM "World-Chip". The single chip MODEM implements Bell 103 and Bell 202 functions. [The Bell 103 standard is commonly used in 300 baud home computer MODEMs and amateur RTTY. The Bell 202 FSK standard is not compatible with popular 1200 baud PSK (Bell 212A) MODEMS, but is the 1200 baud packet radio standard.]

The MODEM chip is connected to serial port #1, and its input and output are connected to the cross-point switch audio matrix.

As an alternative to the internal MODEM chip, an external MODEM connected to one of the serial ports may be used for remote computer communication with the controller.

Secondary Touch-Tone Decoder

A second hardware Touch-Tone decoder is provided which supplements the existing shared decoder on the main controller board. The additional decoder implements a fully independent command decoder with Version 3 firmware. An 8-input analog multiplexer selects one of eight audio signals which may be applied to the decoder, based on internal mapping using the toolbox. (See the Version 3 Operation Manual – "Logical I/O and the Toolbox".)

The decoder may be dedicated to high priority command sources such as a link or remote base receiver, without the need to share it with other command channels.

Cross-point Switch Matrix

Two 4x4 cross-point switch audio matrices are supplied, which may alternately be wired as one 8x4 matrix. Control of the matrices is performed using logical I/O mapping with the toolbox. The audio matrix can assist in developing complex linking systems and perform other audio switching.

General Purpose I/O

Four logic outputs, and three logic inputs may be assigned functions using the logical I/O mapping capabilities of the toolbox.

EPROM Socket

A socket is provided for firmware expansion to a total of 96K bytes (32K on main controller board, 64K on Computer Interface board). The socket accomodates EPROMs up to the Intel 27513, which is a paged 64K byte memory. A portion of Version 3.5 (and higher) firmware resides in this socket.

Pricing

Assembled and tested board with cable (does not include 7910 MODEM chip)	$295
Rear panel upgrade	$25