

The RC-85 Repeater Controller

BIG CONTROLLER PERFORMANCE

AT A SMALL PRICE


 advanced
computer
controls, inc.

10816 Northridge Square
Cupertino, CA 95014
(408) 749-8330

The RC-85 Repeater Controller is the perfect low cost state-of-the-art addition to your new or existing repeater. It has capabilities only before available on ACC's famous RC-850 controller, including synthesized speech, remote programming, autopatch/autodial, and remote base.

Synthesized speech

is the way your new repeater talks to you and your users. But why would you want your repeater to talk? Because *sound* is the only way to communicate over the radio, and *voice* is the most natural.

How can you use speech on your repeater? ID messages in speech are easy for anyone to understand. Anyone tuning across the band will know what repeater they're listening to. But that's just the beginning—our custom "ham" speech vocabulary includes dozens of special words like net, meeting, hamfest, club, and many more so that ID messages can be informative! Remind users of your club's activities. Welcome new users. Suddenly your repeater has a personality of its own, and it's friendly!

But the RC-85 can say much more than what you tell it to, because it has a mind of its own. With diagnostics for your users, including its Touch-Tone pad test and talking S-meter, to let your users check out their equipment, with voice response from the repeater. Wonder how well you're getting in? Press a couple of buttons and hear "S9 plus twenty." Or easily check out your Touch-Tone pad with the RC-85 controller's Pad Test, which reads back the sequence of keys you send.

The new RC-85 controller on your repeater also confirms commands you send it by talking back. Verifying phone numbers and frequency entry for the remote base, and acknowledging Control Operator commands are just a few of the things it can say.

Of course, the RC-85 is fluent in Morse code as well, at virtually any programmable speed and pitch.

Remote programming

of your repeater is a concept introduced by ACC in our RC-850 controller. Using 850 technology, we've brought the convenience and versatility of remote programming to a new low price! Remote programming brings out the best in synthesized speech, with our easy to use, interactive Touch-Tone activated message editor. Your call sign ID messages, tall messages, and the unique Bulletin Board let you post information for your users. Remote programming of command codes lets you change them any time you like for the security you need—without a trip to the hill, or a trip back to the factory. And remotely programmable autodial numbers make it easy for you to keep up with your users as they move, and as new members join. Many of the controller's timers can be changed to suit your style of operation, and you can select from a "palette" of courtesy tones. All from over the air, through a control receiver, or over the phone. Convenience and custom tailoring—made possible by remote programming.

But what happens to what you've programmed if you "pull the plug"? Absolutely nothing! It's been stored in a reliable non-volatile memory... an Electrically Erasable PROM (or E²"squared" PROM), so nothing is lost. No batteries, no Personality PROMs, just the utmost in simplicity. And security offered by your own unique secret programmable unlock code.

The Autopatch and Autodial

capabilities of the RC-85 controller give you and your

group the ultimate in convenience, ease of operation, and reliability. Imagine being able to load your home phone number into the controller's memory—in a few seconds from your Touch-Tone pad. Then imagine being able to load 190 numbers, all stored reliably in E²PROM. But there's even more. Emergency service numbers may be stored in ten special Emergency Autodial slots which read back a message when activated—like "MV Police" or "SC Fire". Ease of entry and confirmation of the right command mean quick, safe, reliable public service patches.

The RC-85 controller regenerates signalling into the phone line for reliable operation—no fluttery mobile tones to confuse the phone company. Dialing in rotary, or quick DTMF—your choice. Top quality components and careful design result in outstanding audio quality. Of course the RC-85 controller protects your phone bill with its selectable toll restrict. And extensive programmable timers to suit your style of operation. Plus a reverse patch accessible from over the phone.

Remote base capability

allows you to hang a transceiver onto your repeater, controllable by users with Touch-Tone commands. The remote base allows linking your repeater to other repeaters and simplex frequencies, from the repeater site. Link repeaters for nets and public service activities, carry around just one rig to work more than one band, even work 10 meter DX from your hand-held!

Control the frequency and mode with Touch-Tone commands, and of course with synthesized speech readback.

Even more features

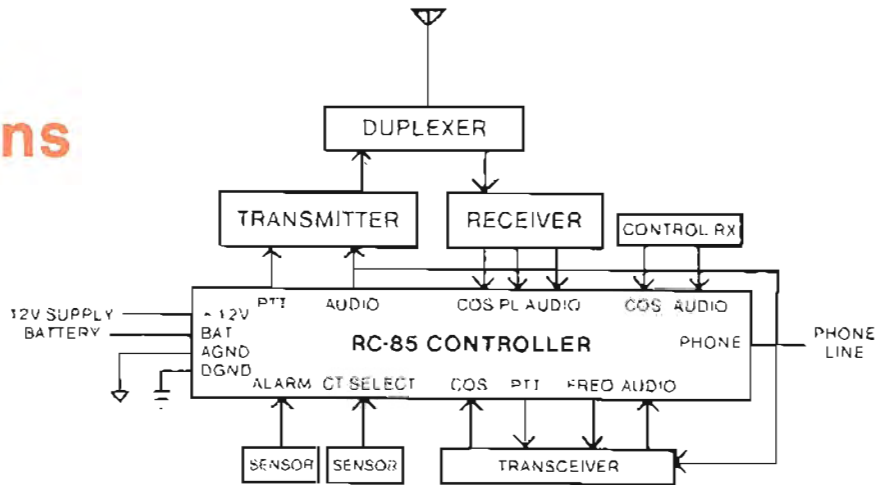
are crammed into the RC-85 controller, including PL access and control modes, a selectable spare audio input for a monitor receiver, and provisions for a separate control receiver. A site alarm activates the repeater with a programmable message on alarm condition, providing security for your site. And two-tone sequential paging means you don't have to be listening to be available—your friend can activate your pager from his Touch-Tone pad.

The RC-85 controller is available as an assembled and tested board, or in an attractive rack mount enclosure. It interfaces easily to any repeater—Motorola Micors, GE Master-Pros, Spectrums, ICOMs, or any other. And here's how to do it—just connect push-to-talk, carrier-operated-switch, receive audio and transmit audio. Connect to the twelve volts already available in your system (the RC-85 controller is designed for low power drain), plug it into the phone line and you're done in minutes! The RC-85 controller is easy to interface, and easy to learn, with its comprehensive, easy to read manual, including index, glossary, and lots of examples. And a "Getting Started" cassette tape so you can get going without even having to read the manual.

Big system performance, at a small system price. And compatible with ACC's complete family of repeater control products, including our Digital Voice Recorder accessible through the message editor, and our Intelligent Voting System.

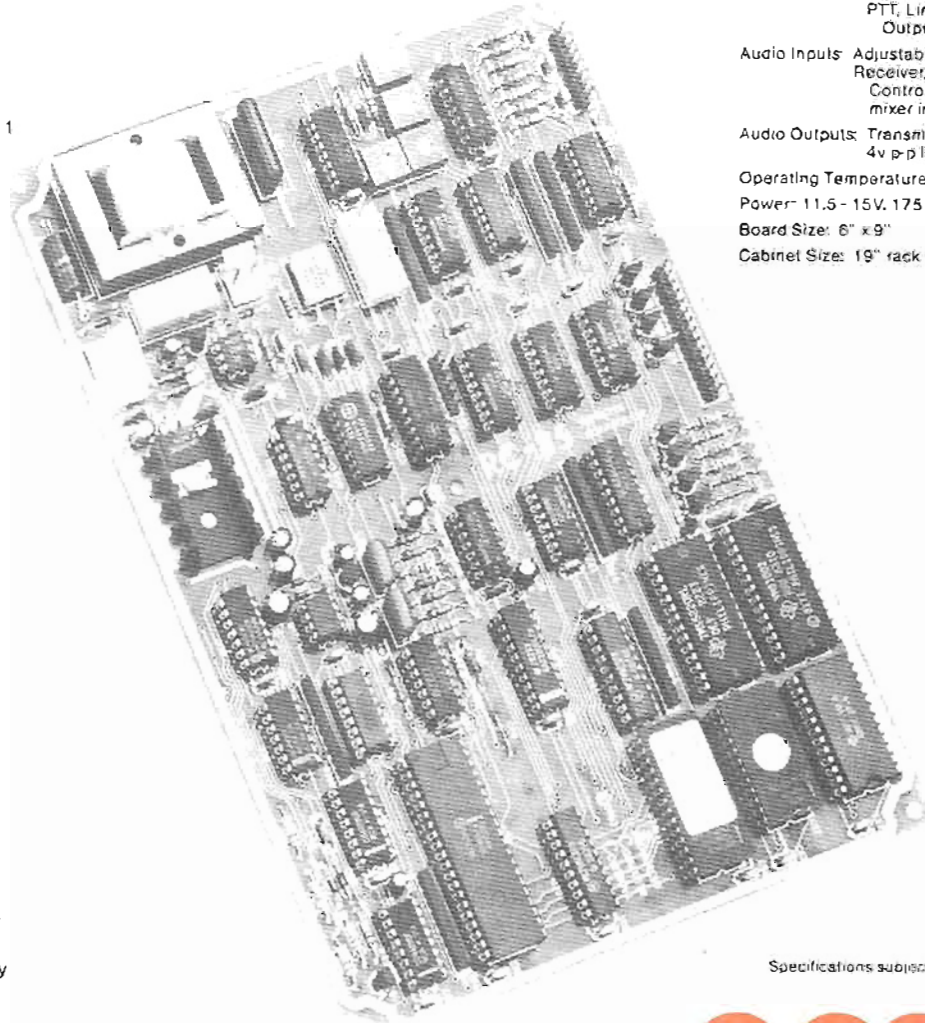
In the world of repeater control, only ACC's RC-850 controller offers higher performance. And in the RC-85 controller's price range, nothing else comes close. The RC-85 Repeater Controller—the second best controller in the world!

REPEATER BLOCK DIAGRAM



Features & Specifications

- Complete standalone repeater controller
- Remotely programmable with Touch-Tone commands:
 - Messages—over 25 (ID's, tails, Bulletin Board, etc.) May be Morse code, synthesized speech, or Digital Voice Recorder tracks (w/DVR)
 - Morse code parameters
 - Speed—12-30 WPM
 - Pitch—dc-3000 Hz
 - Control Op and user command codes (12 prefix groups, up to 7 characters each)
 - Courtesy tone selection (from 10 predefined sets)
 - Timers—10 sets, 0-30 minute with 1 second resolution
 - Autodial numbers (200)
 - Non-volatile E²PROM storage
- Autopatch / Autodial
 - Built-in telephone interface
 - Store/forward, DTMF or rotary
 - Optional phone number readback
 - User Loadable Autodial (190 numbers)
 - Emergency Autodial (10 numbers) with message readback
 - Toll restrict—leading 1/0 and digit count
 - Activity timer with warning warble
- Reverse patch
- Natural sounding speech synthesizer for effective user/repeater interface with custom ham/repeater oriented vocabulary
- Analog measurement for Talking S-Meter
- Paging—two-tone sequential plus group call (over 3000 pager codes)
- Remote base control—commandable frequency and mode (BCD type transceiver)
- PL access and control modes
- Touch-Tone access mode with programmable timeout
- Remote control logic outputs—3 expandable to 8
- Low distortion computer synthesized tone generation
- Noise and kerchunker filtering
- Control receiver provisions
- Alarm input
- Fully integrated CMOS 16 digit DTMF decoder
- Intelligent ID algorithm—automatically selects from up to 7 programmable ID's
- Tail messages—3 selectable, programmable repetition rate
- Command acknowledgement with unique messages
- Low power, single supply operation with built-in battery backup circuitry
- Attractive 19" rack mount enclosure option



Microprocessor: 8085 AH

Memory: Total 36K byte
 EPROM - 16K
 E²PROM - 2K
 RAM - 2K
 Speech ROM - 16K

Logic Inputs: Low < .8 volts
 High > 2.4 volts
 COS, Link COS, Control Receiver COS, PL, Courtesy Tone select, Alarm, spares

Logic Outputs: Open collector, 60V, 100mA
 PTT, Link PTT, Control Outputs (3, expandable to 8)

Audio Inputs: Adjustable levels
 Receiver, Link Receiver, Control Receiver, spare mixer inputs

Audio Outputs: Transmitter Audio
 4v p-p level

Operating Temperature: -15 to +55 degrees C

Power: 11.5 - 15V, 175 mA

Board Size: 6" x 9"

Cabinet Size: 19" rack mount 3.5" high

Specifications subject to change without notice

acc advanced computer controls, inc.

10816 Northridge Square
 Cupertino, CA 95014
 (408) 749-8330