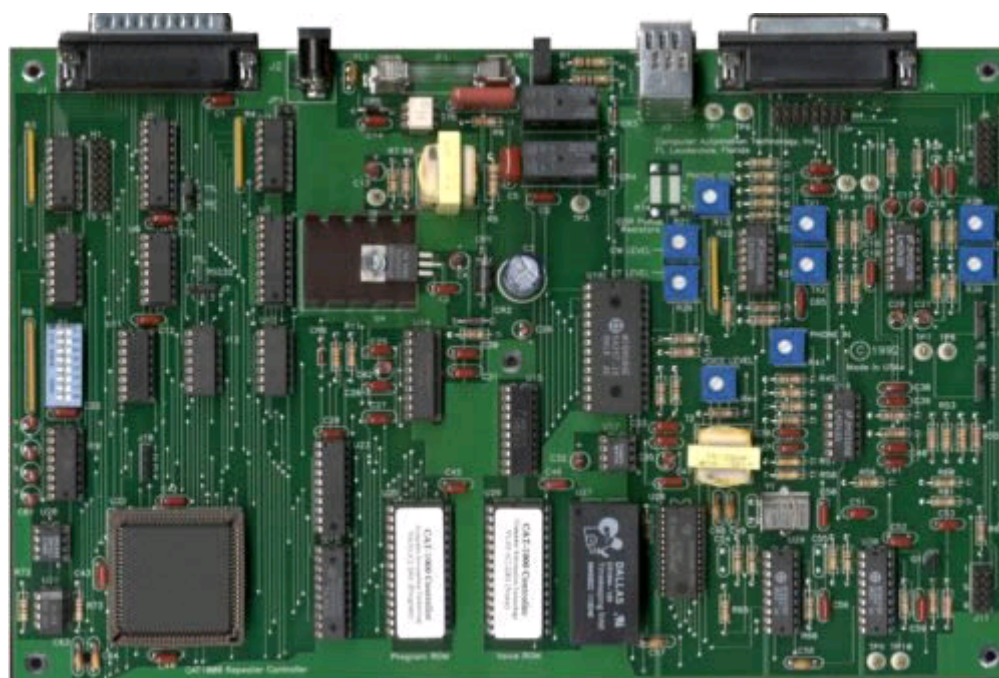CAT-1000B Repeater Controller

The CAT-1000 is packed withfeatures normally reserved for controllers costing thousands of dollars more. Built on the foundation of the very successful CAT-500, this controller incorporates the features suggested by customers like you. Programming the CAT-1000 is a snap with carefully structured and uniform programming commands. The manual is easy to follow with numerous examples. The voice synthesizer interacts with you during each programming operation.

Features Include:

Voice Synthesizer DTMF Regenerator Forty Voice Messages DTMF Pad Test Digital Voice Clock DTMF Audio Muting Grandfather Clock DTMF Paging Two CW Identifiers DTMF or Pulse Dialing Programmable Courtesy Tones DTMF Window (64) Control Functions DTMF Repeater Access (60) Position Scheduler DTMF Command Generator Full Feature Autopatch Link Serial Tuning (300) User Speed Dials (10) Emergency Speed Dials Doug Hall RBI-1 Interface

Reverse Autopatch RS-232 Interface Last Number Redial Hardware Inputs Autopatch Cover Tone DVR Controller Ready Autopatch Time Extender Programmable Prefix Codes Macro Strings TTL Computer Interface Phone Number Read Back Programmable Timers Memory Saves Two-Tone Paging Caller ID Suppression 300 baud on Board Modem User Function Switches Link Auto Disconnect Phone Number Lock-Out Area Code Discrimination Link Preset Frequencies

Voice Synthesizer
A vocabulary list of 475 words carefully selected for amateur repeater operation is available to construct any of 40 different voice messages. Each message can be 31 words in length. Configure your repeater ID and announcements to suit your needs. Chimes, sound effects and salutations in a female voice are also included. The voice synthesizer fully interacts with you during control and programming operations.

Digital Voice Clock
The voice will announce the time upon request, at the completion of an autopatch, during repeater IDs, or on the hour through the grandfather clock feature.

DTMF Key-Pad Test
A DTMF key-pad test will read back the numbers decoded in a synthesized voice. This includes the words "STAR" and "POUND."

Courtesy Tone
Memory space is provided for the storage of ten custom courtesy tones. Each tone can consist of up to three different tone frequencies of various lengths and separations.

LiTZ Emergency Alert
LiTZ is a new system promoted by the ARRL to provide a means for a repeater user to request emergency assistance without being familiar with the operation of the repeater. If a repeater user transmits a DTMF [0] for three seconds, the CAT-1000 will alert the control operators.

Autopatch
A full feature autopatch with storage for 300 speed dial numbers highlights the CAT-1000. Each speed dial location accepts numbers of up to 11 digits and includes space for the users call letters. The same is also true for the 10 Emergency speed dial locations. Regular calls are preceded by a phone number read-back. This feature can be suppressed by a mic key-click. A 20 position table stores telephone numbers or whole prefixes to be locked-out. Area code discrimination permits access to certain area codes. Last number re-dial, hook flash, and time extender commands round out the features. In addition to the Reverse autopatch, full telephone control and programming provides extra security.
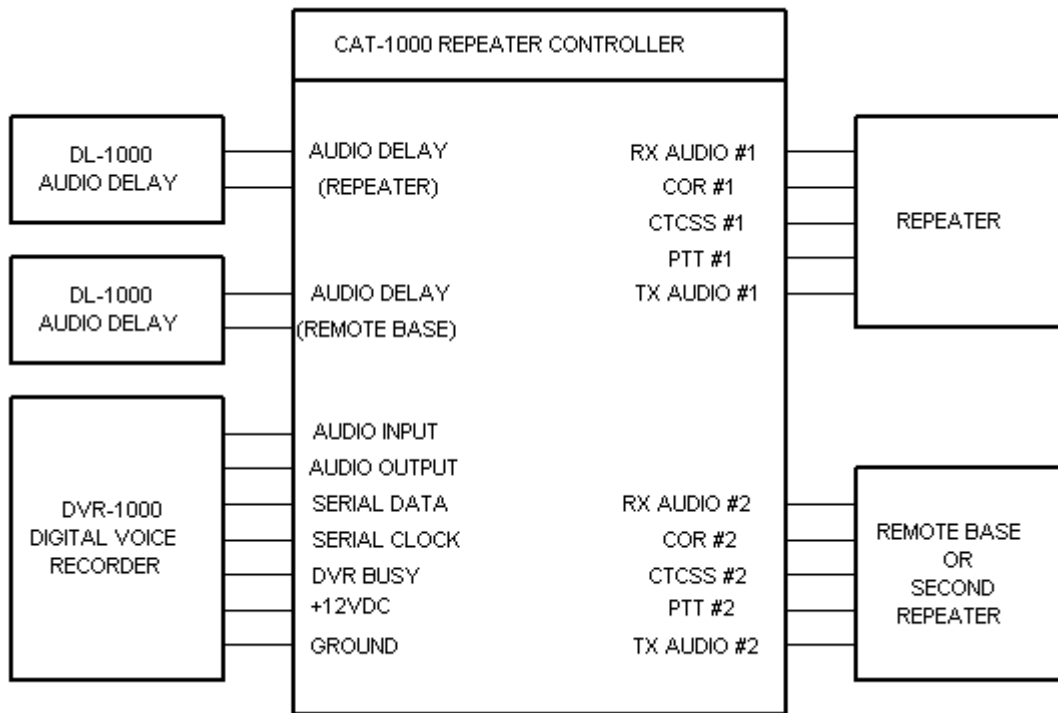
Monitor By Telephone
This feature permits the control operator to call the repeater by telephone and monitor repeater activity. While in this mode, the transmitter can be turned on and off. This is useful when investigating inter-modulation problems.

Scheduler
An advanced 60 position scheduler fully automates the operation of the repeater. Pre-schedule your repeater's operation to one minute accuracy. Program the hours, minutes, day of week, or day of month and month of year. The CAT-1000 will do the rest.

CAT-1000 System Diagram

Repeater Control
Twenty-five prefix numbers control repeater operation. Each prefix is programmable
from one to seven digits depending on the security you require.

Repeater Control Channels
The CAT-1000 has 64 remote control channels. Divided into groups of eight,
according to their function, they can be manually controlled through the repeater, link
or telephone.

CW ID
The CAT-1000 will switch to a CW ID when a user talks over the voice ID. You
program the speed and tone frequency. If the repeater is at rest, ID #1 will be send. If
the repeater is in use, ID #2 will be sent.

Repeater Timers
A total of 19 timers control repeater operation. Each timer is user programmable to
afford maximum flexibility to suit your requirements.

User Function Switches
Eight switches control equipment at your repeater site. Controlled manually by
DTMF commands, or by the scheduler, they can be made to turn OFF, ON or
Momentarily change state, any time you choose.

DTMF Regenerator
The CAT-1000 will mimic your DTMF input. In sophisticated repeater systems, it is
often necessary to pass DTMF commands to distant repeaters within the linking
system. The CAT-1000 will swallow your tones and then regenerate the tones free of
noise and distortion.

DTMF Command Generator
Store forty DTMF commands in the CAT-1000 memory. These commands can be

sent manually or automatically by programming the scheduler.

Hardware Inputs
Eight hardware inputs activated by a positive voltage from other equipment at the repeater site, causes the CAT-1000 to execute any repeater command.

Repeater CTCSS Override
When the repeater is in the CTCSS mode, a user without a CTCSS encoder can activate the repeater by entering a special DTMF access command. The controller will respond to a carrier input. After a short period of inactivity, the controller will revert to the CTCSS mode.

User Macros
By entering a macro number, the CAT-1000 will execute up to ten commands in a string. Store up to 40 macros in memory. One Macro can be used to call a second Macro. Customize the control functions to suit your needs.

On-board Modem
Program the CAT-1000 with your computer through the on board 300 baud modem. Use any popular communication program. Down load the CAT-1000 memory and store it on disk. You will never have to manually reprogram again.

Active Memory Save
Configure the CAT-1000 to suit your special requirements. Save the current settings of the control channels, prefix codes, timers and the first twelve voice messages. Space is provided for eight memory saves. These memory saves can be later recalled with a DTMF command.

DTMF Paging
Enter a DTMF page on the telephone line and the CAT-1000 will rebroadcast the DTMF page to alert a repeater user with a DTMF squelch equipped radio.

Link Transceiver Control
Control a link transceiver. Turn the link ON, OFF or enable just the receiver. After a preselected period of inactivity the link will automatically disconnect.

ED-1000 Windows Editor
Use the optional ED-1000W program to edit the eight memory files. The editor includes a print driver and will work with any computer using a 3.1, 95, 98, 2000 or NT operating system. Once the files have been changed and saved to disk, they can be uploaded using X-MODEM protocol.

WS-1000 Weather Station Firmware
Provide timely weather announcements on your repeater system. Connect a Peet Brothers Ultimeter U-100, U-800 or U-2000 Weather Station or a Davis Weather Wizard III to the serial port of Your CAT-1000 and install the firmware up-grade. Integrate temperature, wind speed, direction, high and low temperature and rain fall rate into any of the CAT-1000 voice messages. Program special weather report messages or make the weather part of your identifications, grandfather clock or tail messages. Additional info can be found here.

Audio Delay
The DL-1000C will eliminate the squelch noise crash and the chirp when DTMF muting is enabled. Connectors are provided for both the repeater and link inputs. The DL-1000C delivers high quality audio. A dip-switch selects delays of 500, 250, 125
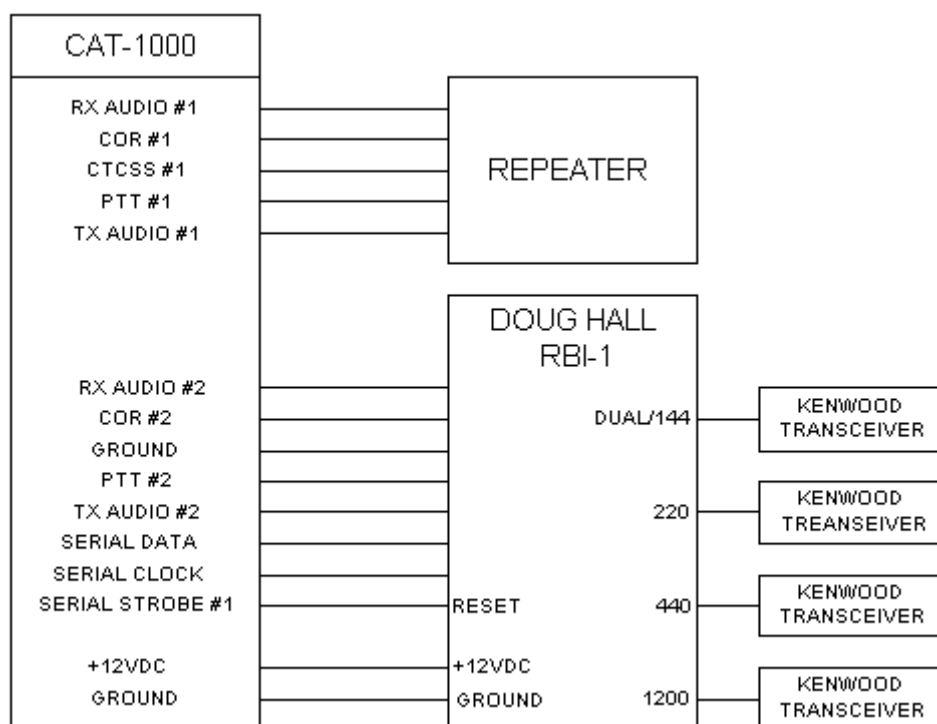
or 62 milliseconds.

Digital Voice Recorder
Add the DR-1000B Digital voice recorder to the CAT-1000 controller. With a total record time of two minutes and sixteen tracks, the DVR is fully integrated into the CAT-1000 control and command structure. Features include on-board battery back-up and the ability to play, record and erase the tracks through the radio or telephone line. A special signal report feature, permits a repeater user to make a seven second recording for immediate play back to evaluate the signal quality.

Doug Hall RBI-1 Interface
The RBI-1 receives serial data information from the CAT-1000 and converts it to the format required to control the Kenwood transceivers. All connections to the Kenwood transceivers are made through the microphone jack. In addition to band, frequency, offset, memory selection and transmitter power, CTCSS tones can be selected remotely. The RBI-1 supports the following Kenwood Transceivers: TM-221, TM-231, TM-241, TM-321, TM-331, TM-421, TM-431, TM-441, TM-521, TM-531, TM-541, TM-621, TM-631, TM-701, TM-721, and TM-731.

CAT-1000 Specifications

Microprocessor	Intel TM80C188EB-16
Memory	1024K EPROM - 64K NRAM
Voice Synthesizer	Texas Instruments TSP53C30
DTMF Receivers	Mitel MT8870
Operating Temperature	-15 to +55C

Power	+9 to +15VDC at 150 mA
Size	7" X 10.5"
Clock Accuracy	+-1 minute per month.
FCC Part 68 Registered	
FCC Part 15 Registered	

Ordering Information

CAT-1000B	Repeater Controller Board $679.00
ED-1000W	Windows Editor $69.00 (ED-1000W)
RME-1000	Rack Mount Enclosuse $109.00
DR-1000B	Digital Voice Recorder $199.00
DL-1000C	Audio Delay Board $95.00

Order Online

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Computer Automation Technology, Inc.
4631 N.W. 31st Avenue, Suite 142
Fort Lauderdale, Florida   33309
1-954-978-6171

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