CAT-500 Repeater Controller

The CAT-500 is packed with features you have been looking for and at a price you can afford. By using advanced circuit design and state-of-the-art technology, the CAT-500 is truly the controller of the nineties. With the lowest part count of any comparable controller, the CAT-500 is priced at an affordable $379.00.

Features Include:
* Voice Synthesizer
* Eight Voice Messages
* Digital Voice Clock
* Grandfather Clock
* CW Identifier
* (64) Control Functions
* (60) Position Scheduler
* DTMF Pad Test
* DTMF Repeater Access
* DTMF Audio Muting
* DTMF Window
* Remote Base Operation
* Programmable Prefix Codes
* Programmable Timers
* (8) Memory Saves
* (3) Hardware Inputs
* (3) User Function Switches
* DVR Controller
* Full Feature Autopatch
* (60) User Speed Dials
* (10) Emergency Speed Dials
* Reverse Autopatch
* Autopatch Time Extender
* Phone Number Read Back
* Caller ID Suppression
* Phone Number Lock-Out
* Remote Base Serial Tuning
* Remote Base Preset Frequencies
* Remote Base Auto Disconnect

Voice Synthesizer
A vocabulary list of 380 words carefully selected for amateur repeater operation is available to construct any of 8 different voice messages. Each message can be 31 words in length. Configure your repeater ID and announcements to suit your particular needs. 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
Select between a dual or single tone courtesy beep and change the beep frequency with an external input from other equipment at the repeater site. This feature is especially useful in indicating when the repeater is operating on emergency power.

CW ID
The CAT-500 will switch to a CW ID when a user talks over the voice ID. The CW ID is field programmable with a fixed speed of twenty words per minute and a tone frequency of 800 Hz.

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
Three 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.

Hardware Inputs
Three hardware inputs activated by a positive voltage from other equipment at the repeater site, causes the CAT-500 to send a voice message or change the frequency of the courtesy tone.

Digital Voice Recorder
An optional DVR, controlled by the CAT-500 through the MF-1000 serial card, can be added to your repeater. Control of the DVR is fully integrated into the CAT-500 control and command structure. The CAT-500 will permit you to substitute any of the sixteen DVR tracks in place of the messages normally generated by the voice synthesizer. In fact, you can even intermix DVR tracks with voice messages.

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.
<table>
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**Diagram Notes:**

1. All resistors are in ohms.
2. All capacitance is in pF unless otherwise specified.
3. All resistors 1/4 watt.
Repeater Control Prefix

Fifteen 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-500 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.

ZONE 1
- Repeater Transmitter
- Repeater CTCSS
- Turn off Delay
- DTMF Access
- Squelch Tail
- DTMF Muting
- DTMF Pad Test

ZONE 2
- Repeater Timeout #1
- Repeater Timeout #2
- Scheduler Control
- Time of Day Request
- Grandfather Clock
- Grandfather Clock Sleep
- Courtesy Beep

ZONE 3
- ZONE 4
- Dual Courtest Tone
- Memory Save #1
- Memory Save #2
- Memory Save #3
- Memory Save #4
- Memory Save #5

ZONE 5
- ZONE 6
- Memory Save #6
- Memory Save #7
- Memory Save #8
- Expanded Output #1
- Expanded Output #2
- Expanded Output #3
- Expanded Output #4

ZONE 7
- Expanded Output #5
- Expanded Output #6
- Expanded Output #7
- Expanded Output #8
- Link Frequency #1
- Link Frequency #2
- Link Frequency #3
- Link Frequency #4

Repeater Programming

An extensive set of programming commands permits you to customize your repeater's operation. Protection is provided by a user programmable seven digit un-lock number. Once un-locked, use the programming commands to load voice messages, speed dial numbers, set the clock, change prefix codes and timer settings.

Active Memory Save

Configure the CAT-500 to suit your special requirements. Save the current settings of the control channels, prefix codes, timers and the eight voice messages. Space is provided for eight memory saves. These memory saves can be later recalled with a DTMF command.

Remote Base Transceiver Control

The CAT-500 will control a remote base transceiver. With the optional MF-1000 serial card, the CAT-500 will accept commands on the repeater input to a serial line the transceiver. You can also turn the remote base on or off by just using the repeater. After a preselected period of inactivity the link will automatically disconnect.

T-500 Telephone Interface

Add a full feature autopatch to the CAT-500. It is as simple as connecting the T-500 Telephone Interface Card to the CAT-500’s accessory connector J2 and installing a new PROM on the CAT-500 board. Sixty speed dial numbers highlights the CAT-500. Each speed dial location accepts numbers of up to seven digits and includes space for the users call letters. The same is also true for the ten emergency speed dial locations. Regular calls are preceded by a phone number read-back. This feature can be suppressed by a mic key-click. Long distance protection is provided by a first number check. Sixty telephone numbers or whole prefixes can be locked-out. An autopatch time extender command rounds out the features. In addition to the Reverse autopatch, full telephone control and programming provides extra security.

MF-1000 Serial Interface Card

This card serves a dual function by tuning a remote base transceiver or controlling a digital voice recorder. Both BCD and Push Button tuning of a remote base transceiver is supported. When connected to the CAT-500 at J2, the Serial Interface Card expands the present User Function Outputs from three to twenty-four. Driven by a serial word, the MF-1000 provides twenty-four parallel outputs and BCD or PUSH-BUTTON tuning of the remote base transceiver with latched transmitter power control. Eight Expanded User Function outputs are under full control of the scheduler for automatic operation. These outputs are independent of the frequency load command. During DVE control, the MF-1000 selects up to sixteen trucks and activates the PLAY, RECORD and RESET functions. A jumper is provided to set the outputs at +5V, +12V or ground to simplify interfacing. The PCB Board is Glass Epoxy (size 2.7" X 3.0").

Preset Frequencies

Eight preset frequencies can be stored in the CAT-500 memory. The scheduler can be programmed to load these frequencies any time you choose. In the PUSH BUTTON mode, outputs 1 through 15 pulse in sequence to simulate a key-pod frequency entry. Output 16 is a latched HIGH/LOW transmitter power control. Outputs 17 through 24 provided eight expanded user functions.

Specifications

- MICROPROCESSOR (80C35)
- MEMORY EPROM (512K)
- MEMORY RAM (64K non volatile)
- CLOCK ACCURACY (+3 minutes per month)
- VOICE SYNTHESIZER (Texas Instruments TSP53C30)
- VOICE VOKABULARY (430 Words)
- DTMF RECEIVER (AT&T7870)
- OPERATING TEMPERATURE (-15 to +55 degrees C)
- POWER REQUIREMENTS (+9 to +15VDC at 100mA)
- SIZE (5.5" by 6.0")

Warranty

Computer Automation Technology warrants this product to the original purchaser to be free of defective materials and workmanship for a period of (1) year from the date of purchase when returned prepaid.

Ordering Information

CAT-500 Repeater Controller Board, Wired & Tested $379.00.
M-500 Detailed one hundred page manual $20.00. (Included with Purchase)
T-500 Telephone Interface Card, Wired & Tested $129.00
MF-1000 Serial Interface Card, Wired & Tested $59.00
SHIPPING UPS Surface $7.00 - UPS 2nd Day $12.00 - C.O.D. $5.00 (Continental U.S.)

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