ANC-7200 Series

Annunciator System

Antona Corporation, Los Angeles, CA



Antona Corporation

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Features

- Single button operation
- Beacons are programmable for time, brightness and blink
- Simple programming 4-button user interface
- Dual Beacons and remote 'Start Cycle' button
- EEROM storage of beacon cycle data
- Red Oak used for beacon bases, chassis accent and remote run button

Overview

The ANC-7200 Controller is programmed with simple commands much like setting a digital wristwatch. The unit generates drive signals to operate industry standard 24VDC LED annunciator beacons. Up to three beacons may be operated at distances up to 200 feet by using direct runs of cable to the beacons. The **ANC-7202** is the two beacon system and the **ANC-7203** is the three beacon unit.

Mechanical Specifications

Case size:	Controller = 5.5" X 7" X 5.5" desk chassis with oak accent Beacon base / Remote run button = 3.5" X 5.2" X 1.6"	
Connectors:	5-pin DIN type DC power connector +12v, -12v, +5v processor power 2-pin Barrel DC power connector for +24v Beacon power DB-9F beacon/switch interface	
External Cabling	4- RJ-45 modular connectors for beacon/remote switch connection Using CAT-5 cabling – all connectors are wired in parallel, so beacons or the remote switch can plug into an available RJ-45 receptacle.	

Electrical Specifications

Power requirements= 2 outlets for 110VAC @ 1amp

System Installation

Turn off the ANC-7200 before performing the system installation. Never install or remove the system with the power applied to the ANC-7200 or any of the attached This could result in permanent damage to the system due to static eauipment. *discharge.* The connections on the back of the chassis are marked for interface identification. Each connector is different meaning only one type of connector will fit into each receptacle. Plug in the chassis power supply (5-pin DIN connector) and the beacon power supply (barrel connector) both located on the back of the chassis, but do not turn the unit on. Next plug in the DB-9 cable included that forms the breakout interface for the beacons and remote switch. The DB-9 female connector is located on the back of chassis on the left hand side. There is mounting hardware included with the RJ-45/DB-9 cable assembly to mount the two – dual RJ-45 receptacles under a desk or against a wall if need be. Lastly, plug in one beacon into any of the RJ-45 receptacles on the attached DB-9 to RJ-45 adapter, and power up the chassis from the power switch located on the front left hand side of the ANC-7200 chassis. The RJ-45 modular connectors are all wired the same meaning any receptacle can be used for powering a beacon or inputting a remote switch. Watch the front panel display and verify it initializes and

displays the current software level followed by: "Ready, ENTR to Start". The beacon should cycle through GREEN, YELLOW, RED and, optionally BLUE for the user to check at the beginning of each day when power is first applied. Pressing the "Entr/Run" button on the front panel will start a timing cycle. Power the unit off by toggling the front panel toggle switch down. If the unit is not to be used for an extended period, the two wall power supplies should be unplugged as they draw current even when the unit is 'off'. Attach a second beacon and repeat the above test. Repeat the process until all beacon are attached and verified as operational, then power down to plug in the remote start switch. After powering the unit up again, press the remote button and the green lamp should come on at each attached beacon indicating the unit has started a timing cycle. Pressing and holding down the remote switch will cancel the timing cycle and turn the green lamp off.

Beacon Clamps

There is a desk clamp assembly included for each beacon. <u>The clamp should not be over</u> <u>tightened as it is designed just to keep the beacon from tipping on a slightly slanted</u> <u>lectern.</u>

On the back of the beacon, above and to the right of the CAT-5 receptacle there is a small $\frac{1}{4}$ " brass threaded insert to accept the clamp into. Only *thread the clamp on with 3 or 4 turns* – not all the way to the body of the beacon as it will become too tight and displace the brass insert. Tighten the clamp enough to maintain a steady hold onto the surface, but not so much as to bend or stress the $\frac{1}{4}$ " brass rod that forms the clamp. Installed properly, the clamp should not cause damage to any surface being attached to as the photo below shows.



Photo 1 – Beacon Clamp Assembly

Powering

Best to use a source of 110VAC that is not connected directly to other equipment drawing heavy current. The chassis power supplies are filtered on input. The +24v supply that powers the beacons, is fused with a 1/4 Amp slow blow fuse inside the chassis. Access the fuse by removing the 3 black pan head machine screws on the left hand side of the controller unit. Locate the white inline fuse holder resting on the floor of the chassis. A spare fuse is enclosed,

but unless you know exactly what caused the fuse to blow there is little use in just replacing the fuse.

User Interface

The ANC-7200 needs only a push of the ENTR (enter) button or remote button to start a timing sequence. The user can terminate a cycle at any time by pressing the "[↑]" (up arrow) button on the ANC-7200 controller chassis. Progress of the timing cycle is displayed on the controller's LCD (liquid crystal display). All modes of operation are directed by a simple to use 4-button user interface much like setting functions on a digital wristwatch.



Photo 2 – front panel

The command format is straightforward and simple to use. Once set, the ANC-7200 saves any changes to an internal non-volatile memory. See the section below on 'Event Parameter Summary' for specific instruction operation.

Run Beacon Operation

To operate the unit, apply power by toggling the power switch located on the left of the front panel. The LCD green LED back light will come on to indicate power has been applied. The beacon attached to the unit will now cycle on for one second for the user to verify that all beacons are working properly. After the power up selftest completes, the unit should display:

'RERDY 'ENTR TO STRRT

Press the 'ENTR' (Enter) button to begin the timed beacon cycle. You may press the up arrow key on the ANC-7200 front panel to terminate a cycle under way.

'N 03:59 COLOR BR' 'I 04:00 GRN 10'

As above, the unit will now display the current time countdown on the first line and the event specifics on the second line. In the example above, the green LED will light on each attached beacon at brightness level 10. After 4 minutes, event number two would be updated to the second line of the LCD and performed.

When the job is finished, the LCD returns to the 'Ready, ENTR' message.

Parameter (1 st line on LCD)	Function	Range	Comment
N (umber of event)	Sequence of LED drive to beacons	1 to 9	Up to 9 lighting events may be cycled through
Mn (minutes)	Full minutes of LED on	00 to 99	
Sc (Seconds)	Seconds of LED on	00 to 59	
Color	Set color and blink state	Grn,Yel,Red,Blu, Grn+B,Yel+B,Bl u+B	User choice of Green, Yellow or Red with blink (+B) or without
Br (ightness)	Set LED brightness for color	00 to 15	00=0ff, 15= full brightness

Event Parameter Summary

Setting a brightness of 00 with a time setting would allow the unit to time an interval with no LED on and then say, light the red LED when that time has completed.

Changing the Beacon Cycle

When delivered or newly installed, the ANC-7200 loads a default timing cycle of four events. The default cycle is:

4:30 of GREEN full brightness0:20 of YELLOW full brightness0:10 of BLINKING YELLOW full brightness2:00 of RED full brightness

The user may change these settings to suit their application. When the unit is powered and ready for operation, the user first presses the MENU button. The top line of the LCD should read: 'Press ENTR to: '. The second line will read a mode choice that is selected by pressing the 'ENTR' key. Use the 'up' or 'down' arrow keys until the choice reads: 'Change LED Cycle' and then press 'ENTR'. The first event will now be displayed with the event number blinking. If the default timing cycle is loaded, the LCD display should read:

'N MN SC COLOR BR' '1 O4:30 GRN 15'

The first line indicated the event number (N) the minutes and seconds duration of the event (mn sc for minutes and seconds) then the event LED color and blink status (color) followed by a brightness setting (Br). The second line shows the value of event 1 as shipped, which is blinking to indicate that the up and down arrow will effect that setting. In this case the green LED would come on without blinking for 4 minutes and 30 seconds at the brightest light setting. The user can preview the current LED timing cycle by pressing the up arrow which will light the appropriate LED at the selected brightness setting. Down arrow can be used to back through the event numbers.

If the user desires to make a change, pressing ENTR again on the selected event will cause the next right parameter, the time duration in minutes, to start blinking. Now the up and down *Antona Corporation* 7 (818)783-4299

arrows can be used to change that parameter. One more push of the ENTR button will allow changing the seconds duration.

Press the ENTR key again to change the LED color or add blinking to the color. To do this, press the up arrow key until the desired color "+B" is displayed. A blinking red LED is not supported or recommended for use.

One more press of the ENTR key will let the user change the LED brightness. The brightness scale starts at 00 for off, and increases linearly to full brightness at a setting of 15. Mid scale is 08. The user can immediately preview the effect of changing the LED brightness by looking at the beacon(s) attached to the ANC-7200 unit as the up and down arrow buttons are pushed.

Pressing the ENTR key returns the event number (1 in the above example) to blink which will now let the user press the up arrow to select another event to modify. Pressing the down arrow will allow the user to back up to any event. When the process is complete, <u>the user selects</u> <u>the last event in the sequence to be performed</u> and then presses the **MENU** key. *Exiting the mode on the last event number is how the processor knows what the last setting to be performed is.* As an example, the last timing event below (Number 4) is to light the red LED for 1 minute at the maximum brightness (15) and then turn off the red LED. The user presses "Menu" to save the settings and the LCD should show the "READY, ENTR to Start".

'N MN SC COLOR BR' 'Y 01:00 RED 15 '

After pressing 'MENU', the cycle timing data is stored onto non-volatile EEROM within the ANC-7200. The user may now press ENTR to run the new timing cycle on the unit.

Other MENU Modes

In addition to the LED cycle changing mode, a choice is offered to do any of the following after the MENU button is pressed:

Reset Program – Same as turning the power off and on. **Reset LED Cycle** – reset the timing cycle to the factory default detailed above. **Normal Run** – return to the run cycle mode (exit menu mode)

Appendix A – ANC-7200 Troubleshooting Guide

CABLING (most common type problem)

If one of the interface wires used is not connected (open) or shorted, the whole unit or a single function will appear not to be working. Check the DB-9 connector and cable at both ends plugged into the back of the control chassis and at the RJ-45 adapter end. Try using another CAT-5 cable or perform a continuity check on the installed cable. Even cables purchased with molded ends can be bad. All of the RJ-45 receptacles attached to the chassis are wired the same – so a remote switch or beacon can be plugged into any socket. Try swapping the RJ-45 receptacle if an individual beacon or remote switch is not working correct. If the beacon power supply has been shorted to ground, the fuse within the controller chassis has blown and needs to be replaced before further testing is performed. See the "No Beacon Lights" paragraph below for fuse replacement.

Powering

Be sure the unit is being powered by a clean source of 110VAC. The unit has a line filter and uses a switching power supply, but is not completely immune to high current glitches coming in from a line connected to other equipment which generates electrical noise on the AC power source. Try using a saturation transformer to isolate noise if there is any question about the power quality. Suspect a problem with powering if the unit 'freezes' and will not respond to any button inputs. Powering the unit off and then on is the only way to recover from such a failure.

No Beacon Lights

Check that the beacon power supply is plugged into and powered at the wall. Facing the front of the chassis, the user can remove the left hand oak panel by taking out the three black machine screws holding it to the chassis (be sure the power plugs are physically removed from the back of the unit before doing so). Now remove and replace the fuse which supplies +24v to the beacons and retest the system. If there is no explanation for why the fuse blew, this process may only cause the fuse to blow again.

Program Operation

Try resetting the default cycle timing as described above in "Other Menu Modes" and retest unit operation. The specific timing cycle you desire needs to be setup prior to operation - selecting the LED time on, color, blink and brightness as described above in "Changing the Beacon Cycle". The ANC-7200 can control multiple color LED beacons. If a non-existent beacon color is chosen or a brightness level of 00 (totally off), then no beacon light will be on. For a standard 3 color beacon, selecting the BLUE LED is not included.

Now What?

If the unit still does not seem to be working right, power it off and on to see if the self test of the lamps is working. Try unplugging all attached beacons and remote switches and repeat the test. If the LCD is running, then the processor is operating. Power down, and re-attach one beacon then power up and see if it operates. Repeat this adding one beacon or remote switch at a time to pinpoint a problem with an individual peripheral.

Contact Antona Corp (antona.com) for further service.

Appendix B – Remote Switch Operation

An optional remote run switch is now available for the ANC-7200 system. The switch assembly uses the same RJ-45 connector and CAT-5 wiring as the beacons. After the system is powered up and the self test complete, the user can press the remote button to start the beacon timing cycle. Pressing and holding down the remote switch while the cycle is running will terminate the timing cycle and return the unit to its ready state.

Appendix C – Quick Setup

The drawing below shows the cable wiring for the entire system

