



Series 3000 Model R-103A

DUAL TONE SENDER INSTRUCTION MANUAL

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Accessories included:

3000R-103A Manual on disk
3185E Manual on disk
3000R/22M Rack Mounting Kit

WARRANTY

Monroe Electronics, Inc. warrants to the owners, each instrument and sub-assembly manufactured by them to be free from defects in material and workmanship for a period of one year after shipment from factory. This warranty is applicable to the original purchaser only.

Liability under this warranty is limited to service, adjustment or replacement of defective parts (other than fuses or batteries) on any instrument or sub-assembly returned to the factory for this purpose, transportation charges prepaid.

This warranty does not apply to instruments or sub-assemblies subjected to abuse, abnormal operating conditions, or unauthorized repair or modification.

Since Monroe Electronics, Inc. has no control over conditions of use, no warranty is made, or implied as to the suitability of our product for the customer's intended use.

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In the event of a breach of the foregoing warranty, the liability of Monroe Electronics shall be limited to repairing or replacing the non-conforming goods and/or defective work, and in accordance with the foregoing; Monroe Electronics shall not be liable for any other damages, either direct or consequential.

RETURN POLICY TO FACTORY:

Materials returned to Monroe must have a Return Material Authorization number. To obtain a RMA number, contact our A/V Switching & Control Customer Service at 585-765-2254 or fax 585-765-9330. Customers have 30 days to determine that the product ordered fills their need and performs as described in Monroe's literature. Units returned for approved repair or credit, must be in the original packaging including all parts and paperwork plus be in very good physical condition. If not, the customer is billed the cost to refurbish the unit and for missing accessories and merchandise. No products may be returned for exchange or credit after 12 months of the shipment date. Monroe reserves the right to repair or replace units under warranty.

SPECIFICATIONS

Number of Cue Tone Sequences:

1 set of On/Off standard,
2 to 4 optional

Output Impedance:

600 Ω , balanced

Cue Tone Output Level:

Adjustable, 2 mV to 2 V RMS

Cue Tone Delay Time:

Adjustable, 0.25 to 1.75 Sec.

Cue Tone Transmission Rate:

Adjustable, 5 to 200 digits/Sec.

Second Cue Tone Automatic

Re-send Timing:

Adjustable, over a wide range

Power Requirements:

94 - 240 VAC, $\pm 10\%$, 50/60 Hz
UL/CSA/CD power supply

Physical:

3.5" H X 9.5" D X 19" W

Weight: 5 lbs.

DESCRIPTION

The model 3000R-103A Dual Tone Sender is a preprogrammed CATV Cue Tone generator designed to place DTMF (Touch-Tone*) cues on CATV program audio. The cue tones are transmitted to provide CATV systems with unattended switching and can signal beginning and ending of:

- Daily Programming
- Program Segments
- Local Announcements or Commercials

The model 3000R-103A can provide up to eight Cue Tone codes; four ON and four OFF.

Internal Cue Tone Decoders monitor program audio and provide verification that the cues have been properly transmitted.

Front panel pushbutton switches and indicators permit operation; rear panel terminals allow external switches and indicators to be added if desired.

*Touch-Tone is a registered trademark of AT&T

INSTALLATION

Three terminal strips are provided on the rear panel of the model R103A for external connections.

PROGRAM AUDIO CONNECTION:

Cue Tones can be inserted on the same carrier as the program audio or inserted on their own carrier. If they are to be inserted on the program audio carrier, it is necessary to ensure that no program audio is present while cue tones are being transmitted. Therefore, the program audio should be routed through the normally closed contacts of the 3000R-103A's balanced audio relay.

- A. Open the program audio line and connect the audio source across TB1, terminals 11 and 12.
- B. Take the audio output from TB2, terminals 11 and 12.

NOTE: In the event of power or equipment failure the 3000R-103A will not interrupt the program audio.

If the Cue Tones will be inserted on their own audio carrier, make the connection in step B above.

MONITOR AUDIO CONNECTION:

Program monitor audio must be wired to TB3, terminals 11 and 12 to provide verification that the cue tones have been properly transmitted. To accomplish this, jumper TB2 terminals 11 and 12 to TB3 terminals 11 and 12.

If program monitor audio is not available, TB3 terminals 11 and 12 may be wired directly to the program audio source if desired. The monitor audio input is transformer coupled (600 ohms) to the internal decoders.

REMOTE SWITCH CONNECTIONS:

Barrier strip TB1, terminals 1 through 9 provide connections for installation of remote switches to activate cue tone codes.

Momentary pushbutton switches can be wired from any or all terminals 1 through 8, to terminal 9. Momentarily grounding any terminal 1 through 8 will cause the 3000R-103A to transmit the code controlled by that input.

TB1 TERMINAL	CODE
1	1 ON
2	1 OFF
3	2 ON
4	2 OFF
5	3 ON
6	3 OFF
7	4 ON
8	4 OFF
9	COMMON (GROUND)

REMOTE INDICATOR CONNECTION:

Barrier strip TB2 terminals 1 through 9 provide connections for installation of remote indicators controlled by the internal Cue Tone Decoders.

Any type of LED indicators with proper current limiting resistors can be used for remote indicators.

TB2 TERMINAL	CODE
1	1 ON (GREEN)
2	1 OFF (RED)
3	2 ON (GREEN)
4	2 OFF (RED)
5	3 ON (GREEN)
6	3 OFF (RED)
7	4 ON (GREEN)
8	4 OFF (RED)
9	+5VDC OUTPUT

OPERATION

When the Model R103A is first plugged into a 117 VAC outlet the front panel red indicator lamps will be "ON" for each channel that is installed.

Pressing the front panel ON switch for any active channel will cause the R103A to send its preprogrammed Cue Tone out on TB2, terminals 11 and 12. When equipped with 3223B-2 transmission begins when switch is pushed.

ADJUSTMENTS

All adjustments are made with respect to barrier strip TB2, terminals 11 and 12.

CUE TONE LEVEL:

A screwdriver adjustment in the center of the rear panel is provided for adjustment of the Cue Tone level into the program audio. Maximum audio level is obtained by turning this control fully clockwise.

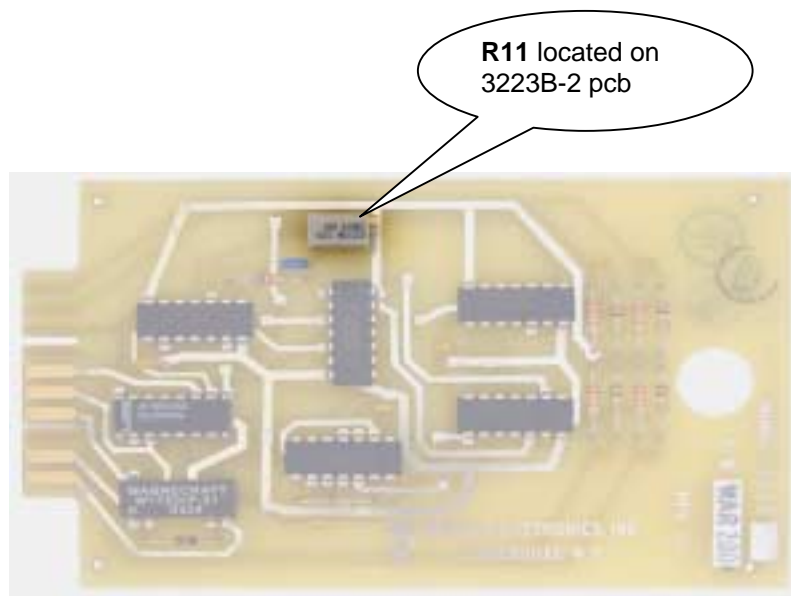
The Cue Tone level on the program audio should be adjusted for – 12 dBm (200 MV RMS). The Model 3171B (A4 position) has an on board level adjustment R10. By placing the rear panel level adjustment in its center position the model 3171B R10 can be adjusted counterclockwise to decrease the Cue Tone level to the desired level.

CUE TONE DELAY:

The delay time between a switch closure and the beginning of a Cue Tone transmission may also be adjusted. The Model 3223B-2 (A5 position channel 1 and 2) and or (A2 position channel 3 and 4) has an on board adjustment R12. Turning R12 clockwise will lengthen delay time between a switch closure and the beginning of a Cue Tone transmission, this factory set at a one second delay.

CUE TONE TRANSMISSION RATE:

The Cue Tone transmission rate may be adjusted for other than the factory setting of 10 Hz (50 ms first pulse width). The Model 3223B-2 (A5 position channel 1 and 2) and/or (A2 position channel 3 and 4) has an on board adjustment R11. Turning R11 clockwise will increase the transmission rate; 12.5 Hz. Equals 40 ms first pulse width; 14.3 Hz. Equals 35 ms first pulse width.



Front View – R103A
(with cover removed)

