



***CST2001/V
SYNTHESIZED
VOICE TRANSMITTER***

***OPERATING
INSTRUCTIONS***

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CST-2001 Series Covert Voice Transmitter

DESCRIPTION

The Tactical Technologies Inc. Model CST-2001/V series is a 1 or 2 channel 250 mW VHF-FM synthesized voice transmitter.

The transmitter utilizes 4 "AA" Alkaline Batteries for its power supply, and is designed to utilize a specially built combined microphone/antenna unit. The CST-2001 is programmed via an open serial port on an IBM compatible PC. The transmitter's firmware is compatible with ANY vintage IBM compatible PC's communications program - such as Hyperterminal or Terminal.

The supplied instructions are for the Window 95 or 98 operating systems.



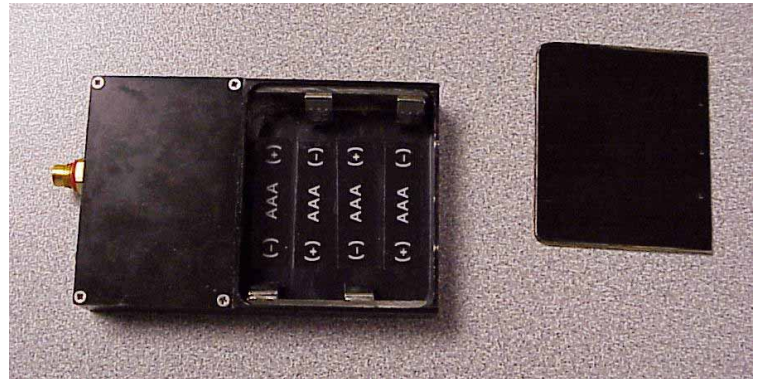
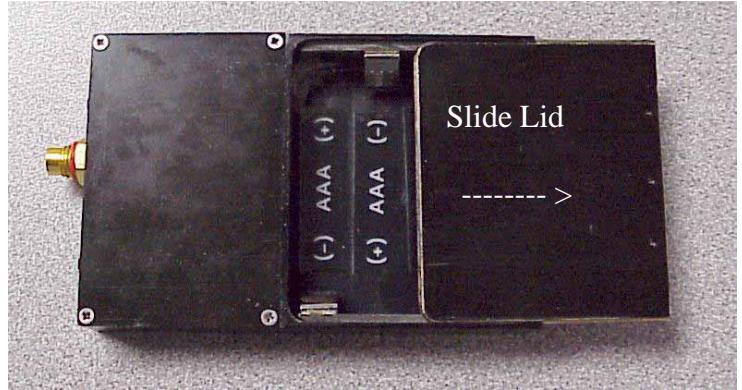
BATTERY INSTALLATION

1.) Remove battery cover off unit by gently sliding the battery compartment cover down and away from the transmitter housing. Slight pressure may be needed to release the small dimples found near the bottom of the cover.

2.) Install 4 each standard AAA Alkaline batteries - Make sure you observe polarity as indicated inside battery compartment.

3.) Replace battery cover. Be sure to insert both sides of cover into the grooves on each side of the battery compartment. Cover slides easily up towards the top of the housing.

NOTE: It is important to keep the cover aligned perpendicular with the transmitter housing when removing or replacing it.



TRANSMITTER OPERATION

- 1.) CST-2001 comes with a single external, integral microphone/antenna component. Install microphone/antenna to its appropriate connector on top of transmitter. The four pin connector is keyed for proper installation. Be sure to lock down the connector by twisting the screw ring clockwise until it snugs up to the panel connector. **DO NOT OVERTIGHTEN.**
- 2.) Select frequency to operate on by positioning frequency select slide switch:
 - Single white **O** is frequency 1
 - Double white **OO** is frequency 2.
- 3.) Turn on/off switch to ON position
 - Red O is OFF**
 - Green O is ON**
- 4.) Test Operation using appropriate receiver.



INSTALLING YOUR SOFTWARE

1.) The computer program supplied to install the frequencies into your CST-2001 transmitter is a module written for Microsoft's HyperTerminal. HyperTerminal is supplied with Windows 95 and 98.

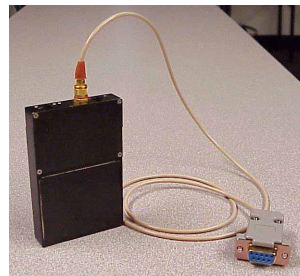
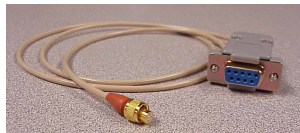
If HyperTerminal is installed, you can proceed. If you have not installed this program onto your computer, please do so at this time.

Installing HyperTerminal:

- a.) Select "START" from the Windows Task Bar
- b.) Select "Settings" - "Control Panel" from the Start Menu
- c.) Select "Add/Remove Programs" from the Control Panel
- d.) Select the "Windows Setup" tab at the top of the window
- e.) Double-click on "Communications" in the 'components' window.
- f.) Click the box next to "HyperTerminal". This puts an X in the box.
- g.) Click "OK" at the bottom of the window.
- h.) Click "OK" at the bottom of the new window.
- i.) Follow the on - screen instructions about inserting your Windows Installation disks or CD.

4.) Install the HyperTerminal TTI Transmitter Programming Module:

- a.) Insert the supplied 3 1/2 inch floppy disk into your computer's disk drive.
- b.) Select "START" from the Windows Task Bar.
- c.) Select "RUN" from the Start Menu
- d.) Type "a:\setup" in the white bar
- e.) Select "OK"
- f.) Follow the on screen instructions.
- g.) Remove disk when finished.



PROGRAMMING YOUR FREQUENCIES

1.) Connect the 2001 programming cable to the top of the transmitter via the round four pin connector. This connector is keyed for proper installation. Be sure to lock down the connector by twisting the screw ring clockwise until it snugs up to the panel connector. **DO NOT OVERTIGHTEN.**

2.) Connect the D style 9 pin female connector to an open serial port on your IBM compatible computer. If your computer's serial port is a 25 pin

connector, you will need to use a DB25 to DB9 serial adaptor (not included).

3.) Start the "TTI Transmitter Programming" software by clicking its icon located on the Windows Desktop.

4.) You must know the number of the Serial (Com) Port you have attached the transmitter to. The software comes ready to work with Com 1. If you are using Com 2, 3, or 4, you must perform the following:

- a.) Select "File" - "Properties" from the HyperTerminal Task Bar
- b.) From the "Phone Number" tab, select your Com Port in the

"Connect Using" pull down menu. Select the "Direct to Com ____" line that correlates to your Com Port.

- c.) Select "OK" from the bottom of the window
- d.) Your Com Port selection is automatically saved.

5.) Turn ON your Transmitter. At this time, the transmitter will report its serial number and the frequencies programmed into it onto the HyperTerminal screen.

6.) Entering your frequencies is very easy. Just remember to use all lower case letters, and follow the same letter/punctuation/and space sequence that the transmitter reported to you on the screen. For the first frequency, you start by entering **f1=**. For the second frequency, you start by entering **f2=**. If at any time you make a mistake, you simply backspace to erase and type again. The program will also tell you if you have made an erroneous entry by reporting **invalid** as a response. If you want to see what frequencies are in the transmitter, type **fv**, for 'frequency validate'. Your frequency entries should look like this: **f1=xxx.xxxx, or f2=xxx.xxxx** (where 'xxx.xxxx' is your frequency), **or fv** to validate entries. You do not have to type 'MHz'. If you type anything other than these phrases, the program will report 'invalid', and you can start again.

7.) After you have finished validating your entry, turn off your transmitter, disconnect the cables, and close the computer program.

IMPORTANT:

- 1.) If computer interface is not COM 1, you must select the correct Com port as described in the instruction.
- 2.) If you only program one frequency - program it into BOTH channels.

- 3.) The separation between the two transmit channels must be:
Greater than or equal to 12.5 kHz
- 4.) Frequencies must be in 12.5 kHz steps.

Your frequency must end in any of the following configurations:

xxx.0000
xxx.1250
xxx.2500
xxx.3750
xxx.5000
xxx.6250
xxx.7500
xxx.8750

- 5.) The transmitter must be ON in order to program it.
- 6.) Turn OFF the transmitter when finished programming.

OPERATING NOTES:

- 1.) Microphone/Antenna combination should always be kept vertical for best operation.
- 2.) Always use fresh batteries at the beginning of each operation.

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