Thank you for choosing XANTECH. Read this manual carefully to get the best performance from this unit.
Important Safety Instructions

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated “dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING: TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

For U.S.A.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the equipment and/or the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

CAUTION
Changes or modifications to this equipments not expressly approved by the manufacturer for compliance will void the user’s warranty.

CAUTION
- DO NOT REMOVE THE PROTECTIVE HOUSING USING SCREWDRIVER.
- IF THIS PRODUCT DEVELOPS TROUBLE, MAKE A CONTACT WITH OUR SERVICEMAN, AND DO NOT USE THE PRODUCT IN A TROUBLED STATE.

For CANADA

AC POWER CORD CONNECTION

CAUTION:
TO PREVENT ELECTRIC SHOCK, MATCH WIDE BLADE OF PLUG TO WIDE SLOT, FULLY INSERT.
Remote Control Unit

The provided Remote Control Unit allows the unit to be operated from a distance. When operating the remote control unit, point it towards the REMOTE SENSOR on the front panel of the unit.

- Even if the remote control unit is operated within the effective range, remote control operation may be impossible if there are any obstacles between the unit and the remote control.

- If the remote control unit is operated near other appliances which generate infrared rays, or if other remote control devices using infrared rays are used near the unit, it may operate incorrectly. Conversely, the other appliances may operate incorrectly.

Battery Installation

1. Remove the battery compartment cover.
2. Insert two "AAA" (R03, UM-4) dry batteries. Make sure that the batteries are inserted with their positive (+) and negative (-) poles positioned correctly.
3. Close the cover.

Battery Replacement
If the distance required between the remote control unit and main unit decreases, the batteries are exhausted. In this case replace the batteries with new ones.

Precautions concerning batteries
- Be sure to insert the batteries with correct positive (+) and negative (-) polarities.
- Use batteries of the same type. Never use different types of batteries together.
- Rechargeable and non-rechargeable batteries can be used. Refer to the precautions on their labels.
- When the remote control unit is not to be used for a long time (more than a month), remove the batteries from the remote control unit to prevent them from leaking. If they leak, wipe away the liquid inside the battery compartment and replace the batteries with new ones.
- Do not heat or disassemble batteries and never dispose of old batteries by throwing them in a fire.

Read this before operation
- Choose the installation location of your unit carefully. Avoid placing it in direct sunlight or close to a source of heat. Also avoid locations subject to vibrations and excessive dust, heat, cold or moisture.
- Do not open the cabinet as this might result in damage to the circuitry or electrical shock. If a foreign object should get into the set, contact your dealer.
- When removing the power plug from the wall outlet, always pull directly on the plug, never yank the cord.
- Do not attempt to clean the unit with chemical solvents as this might damage the finish. Use a clean, dry cloth.
- Keep this manual in a safe place for future reference.

Maintenance
If the surface of the unit gets dirty, wipe with a soft cloth or use diluted mild soap liquid. Be sure to remove any excess completely. Do not use thinner, benzine or alcohol as they may damage the surface of the unit.

CAUTION
The product shall not be exposed to dripping or splashing and that no object filled with liquids, such as vases, shall be placed on the product.
Do not install this equipment in a confined space such as a book case or similar unit.
CAUTION

Turn off the power of all the equipment before making connections. Read instructions of each component you intend to use with this unit.

- Be sure to insert each plug securely. To prevent hum and noise, do not bundle the connection cords with the power cord.

Connection

![Connection Diagram]

A B C D E F

Amplifier Amplifier
**A FM Antenna**

Connect an outdoor FM antenna to the FM 75Ω socket. Generally, a 3-element antenna will be sufficient; if you live in an area where the FM signals are particularly weak, it may be necessary to use one with 5 or more elements.

If standard FM broadcast frequencies are available via your cable service, you may connect your 75 ohm FM antenna jack to your cable system. Please contact your cable service to discuss this option.

**B AM Indoor Loop Antenna**

The high-performance AM loop antenna provided with this unit is sufficient for good reception in most areas.

To stand the loop antenna on a surface, fix the claw to the slot.

1. [Image of AM Loop Antenna]
2. [Image of AM Loop Antenna connection]

Connect the loop antenna’s wires to the AM antenna terminals as shown.

**How to connect**

Press the lever, insert the end of the cord, then release the lever. Make sure it is fastened securely by pulling the cord lightly. Make sure only the bare, stripped wire is inserted in the jack and that no plastic insulation is preventing contact between the antenna wire and terminal.

Place the antenna on a shelf, for example, or hang it on a window frame, etc., in the direction which gives the best reception, as far away as possible from the entire system, speaker cords and the power cord, to prevent unwanted noise.

**C AUDIO OUT**

Connect the component with RCA pin cords. Make sure to connect:

- white plug → white jack (L: left)
- red plug → red jack (R: right)

**D Power cord (AC)**

Be sure to connect the power cord to an AC outlet which supplies the correct voltage. Hold the power plug when plugging or unplugging the power cord.

**E REMOTE**

Used for a wired remote control unit (optional).

**F RS-232**

Used for a wired RS-232 standard remote control unit (optional).
Names of Each Control

Buttons for TUNER 1

Buttons for TUNER 2
To simplify explanations, instructions refer to names of buttons and controls on the front panel, making no mention of the use of remote control unit.

**REMOTE SENSOR**
When operating the remote control unit, point it towards the REMOTE SENSOR.

**STANDBY indicator**
This indicator lights when the unit is in the standby mode. When the unit is turned on, it goes off.

**POWER switch**
Press this switch to turn the unit on or off.

The equipment draws nominal non-operating power from the AC outlet with its POWER switch in the OFF position.

**FM button, AM button**
Use these buttons to select FM or AM.

**FM MODE button**
Use this button to select stereo or monaural.

**PRESET button**
Use this button to select the preset tuning mode.

**DIRECT button**
Use this button to select the manual tuning mode. You can use the numeric buttons to directly input frequency numbers.

**MEMORY button**
Use this button to store preset channels into memory.

**TUNING/PRESET buttons**
Use these buttons to tune in a station.

**Numeric buttons**
These buttons are used either to input frequency numbers or to select preset stations.

**Display**

**Note:**
To simplify explanations, instructions refer to names of buttons and controls on the front panel, making no mention of the use of remote control unit.
Press the POWER switch to turn the unit on.

Select the AM or the FM band by pressing the corresponding button.

Press the DIRECT button to select the manual tuning mode.

Select the station you want to listen to. “TUNED” is displayed when a broadcast is correctly tuned in.

Auto Selection

Hold down the TUNING/PRESET button for 0.5 to 2 seconds. When a station is tuned in, the tuning process will stop automatically.

If you want to stop the tuning process, press the TUNING/PRESET button.

Manual Selection

(Selecting stations which cannot be tuned automatically)

When the TUNING/PRESET button is pressed momentarily (0.5 second or less), the frequency changes by a fixed step.

FM : 0.2 MHz steps
AM : 10 kHz steps

Press the TUNING/PRESET button repeatedly until the station you want to listen to is found.

Direct Tuning

Input the frequency numbers with the numeric buttons.

Example
To select FM 88.30 MHz : 8→8→3
To select AM 1220 kHz : 1→2→2→0

When no button is pressed for 3 seconds, the mode will be cancelled.

FM MODE Button

Pressing this button alternates between Stereo mode and Mono mode.

Stereo
FM stereo broadcasts are received in stereo and the “STEREO” indicator lights in the display.

Mono
To compensate for weak FM stereo reception, select this mode. Reception will now be forced monaural, reducing unwanted noise.
Manual Memory Presetting

You can store your favorite FM and AM stations into any of the 30 preset locations by:

1. Select the AM or FM band by pressing the corresponding band button.

2. Press the DIRECT button to select the “manual tuning” mode.

3. Select the station you would like to store by scrolling through the station using the TUNING/PRESET buttons or directly tune the station by using the numeric buttons.

4. Once the station is tuned, press the MEMORY button.

5. While the MEMORY indication is flashing select the preset you would like to use for this station by EITHER:

   Scroll up or down using the TUNING/PRESET buttons until the preset is displayed. Then press the MEMORY button to store

   OR enter the 2-digit preset number using the numeric pad. (For instance “05” will store the station in preset number 5. “25” will store the station in preset location 25.) The preset will automatically be stored and the memory indication will stop flashing.

To store more stations, repeat steps 3 through 5.
Troubleshooting

If you experience any problems with the unit, please take a moment to look through this chart and see if you can solve the problem yourself before you call your dealer or service center.

No power
➤ Check the connection to the AC power supply. Check and make sure the AC source is not a switched outlet and that, if it is, the switch is turned on. Make sure there is power to the AC outlet by plugging another item such as a lamp or fan.

Cannot listen to any station, or signal is too weak.
➤ Make sure the antenna is properly connected.
➤ Tune in the station properly.
➤ If a TV is near the unit, turn it off.
➤ Install the antenna again after relocating it to a better reception position.
➤ An external antenna may be required.

Though the broadcast is stereo, it sounds monaural.
➤ Press the FM MODE button.

Remote control doesn’t work.
➤ Press the POWER switch to turn the unit on.
➤ If the batteries are dead, change the batteries.
➤ Use remote control unit within the range (5m /15ft) and point at the front panel.
➤ Clear obstacles between the remote control unit and the main unit.
➤ If a strong light is near the unit, turn it off.

If normal operation cannot be recovered, unplug the power cord from the outlet and plug it again.

Memory Backup
Settings are stored permanently, even when power is turned off and the unit is unplugged.
Specifications

**FM Tuner Section** *(Without notes 98.1 MHz, 65 dBf)*

<table>
<thead>
<tr>
<th>Specification</th>
<th>Mono</th>
<th>Stereo</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tuning Range</td>
<td>87.5 MHz – 107.9 MHz (200 kHz steps)</td>
<td></td>
</tr>
<tr>
<td>Usable Sensitivity (IHF)</td>
<td>15 dBf</td>
<td>41 dBf</td>
</tr>
<tr>
<td>50 dB Quieting Sensitivity Mono</td>
<td>21 dBf</td>
<td></td>
</tr>
<tr>
<td>50 dB Quieting Sensitivity Stereo</td>
<td>41 dBf</td>
<td></td>
</tr>
<tr>
<td>Total Harmonic Distortion (1 kHz)</td>
<td>0.3%</td>
<td>0.4%</td>
</tr>
<tr>
<td>Frequency Response</td>
<td>30 Hz – 15 kHz, ±1.5 dB</td>
<td></td>
</tr>
<tr>
<td>Stereo Separation (1 kHz)</td>
<td>40 dB</td>
<td></td>
</tr>
<tr>
<td>Signal-to-Noise Ratio</td>
<td>67 dB</td>
<td>63 dB</td>
</tr>
</tbody>
</table>

**AM Tuner Section**

<table>
<thead>
<tr>
<th>Specification</th>
<th>Mono</th>
<th>Stereo</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tuning Range</td>
<td>530 kHz – 1,710 kHz (10 kHz steps)</td>
<td></td>
</tr>
<tr>
<td>Usable Sensitivity</td>
<td>64 dB/m</td>
<td></td>
</tr>
<tr>
<td>Total Harmonic Distortion</td>
<td>1% at 85 dB/m</td>
<td></td>
</tr>
<tr>
<td>Signal-to-Noise Ratio</td>
<td>40 dB at 85 dB/m</td>
<td></td>
</tr>
</tbody>
</table>

**General**

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power requirements</td>
<td>120 V AC, 60 Hz</td>
</tr>
<tr>
<td>Power Consumption</td>
<td>12 W</td>
</tr>
<tr>
<td>Dimensions (W x H x D)</td>
<td>435 x 95 x 270 mm</td>
</tr>
<tr>
<td>(17-1/8&quot; x 3-3/4&quot; x 10-5/8&quot;)</td>
<td></td>
</tr>
<tr>
<td>Weight (net)</td>
<td>4 kg (8-13/16 lbs)</td>
</tr>
<tr>
<td>Standard Accessories</td>
<td>Remote Control Unit x 1</td>
</tr>
<tr>
<td></td>
<td>Battery (AAA, R03, UM-4) x 2</td>
</tr>
<tr>
<td></td>
<td>AM Loop Antenna x 1</td>
</tr>
<tr>
<td></td>
<td>FM adapter x 1</td>
</tr>
<tr>
<td></td>
<td>RCA Cord x 2</td>
</tr>
</tbody>
</table>

- Improvements may result in specifications and features changing without notice.
- Illustrations may differ slightly from production models.
PURPOSE:

This document describes the RS-232 commands that will operate the XANTECH XDT Dual Tuner through the 9-pin RS-232 connector on the rear panel.

General Information:

- **Data Rate:** 19,200 baud
- **Parity:** None
- **Word length:** 8 data bits, 1 stop bit
- **Handshake:** No RTS/CTS handshaking
- **Connections:** simple 3 wire (Rx, Tx, Gnd) interface

DATA ENTRY PROTOCOL:

The serial buss should follow a standard serial communications protocol using Line oriented ASCII data stream. The command line must be followed with a carriage return for the unit to respond. The unit should not echo characters received back to the host.

**Command Codes:**

<table>
<thead>
<tr>
<th>Character</th>
<th>Range</th>
<th>Function</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>X:</td>
<td>0,1</td>
<td>Power Off/On</td>
<td>X1 = Power On, X0 = Power Off</td>
</tr>
<tr>
<td>T:</td>
<td>1,2</td>
<td>Tuner #</td>
<td>T1 = Tuner 1, T2 = Tuner 2</td>
</tr>
<tr>
<td>B:</td>
<td>1,2</td>
<td>Band #</td>
<td>B1 = AM, Band 2 = FM</td>
</tr>
<tr>
<td>P:</td>
<td>00 - 30</td>
<td>Preset #</td>
<td>P01 = Preset 1, P30 = Preset 30, P00 (just for status) = No Preset Selected</td>
</tr>
<tr>
<td>F:</td>
<td>4 numbers</td>
<td>Frequency Setting</td>
<td>F0890 = 890 AM, F1045 = 104.5 FM</td>
</tr>
<tr>
<td>A:</td>
<td>0,1</td>
<td>Seek Up / Down</td>
<td>A0 = Seek Down, A1 = Seek Up</td>
</tr>
<tr>
<td>M:</td>
<td>0,1</td>
<td>Step Up / Down</td>
<td>M0 = Step Down 1 step, M1 = Step Up 1 step</td>
</tr>
<tr>
<td>S:</td>
<td>1 = locked, 0 = not</td>
<td>Signal Lock / Stereo Presence</td>
<td>S00 (just for status) = no signal, no stereo, S01 = invalid</td>
</tr>
<tr>
<td></td>
<td>1 = stereo, 0 = mono</td>
<td></td>
<td>S10 = signal lock (mono), S11 = signal lock (stereo)</td>
</tr>
<tr>
<td>Q:</td>
<td></td>
<td>Query status of tuner</td>
<td>Q1 = Status of Tuner 1, Q2 = Status of Tuner 2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Q3 = Status of both tuners, 1 then 2</td>
</tr>
<tr>
<td>N:</td>
<td>0,1</td>
<td>Preset Step Up / Down</td>
<td>N0 = Step Down 1 Preset, N1 = Step Up 1 Preset</td>
</tr>
<tr>
<td>L:</td>
<td>01 - 30</td>
<td>Set Preset</td>
<td>L01 = Set Station as Preset #1</td>
</tr>
</tbody>
</table>

Command Examples:

- T1B2P01<cr> would command tuner #1 to select band 2 (FM) and tune to FM preset #1
- T2B1F1070L03<cr> would command tuner #2 to set AM frequency 1070 kHz as AM preset #3

To select a station to be tuned and THEN set that station as a preset, would require two commands:

- T2B1F1070<cr> would command tuner #2 to select band 1 (AM) and tune to frequency 1070 kHz.
- T2L03<cr> would command tuner #2 to set the currently tuned station (in this example AM 1070) as AM preset #3

Query Example:

- Q1<cr> would solicit the following response:
  Feedback as to the status of tuner #1, which would include band select, station preset, frequency tuned, signal lock and stereo presence. The response string would look like this:T1B2P00F1011S11
  T1 (tuner 1) B2 (FM), P00 (no preset selected), F1011 (frequency 101.1 MHz), S11 (signal lock & stereo)

Shortcut Commands:

**Note: examples below are assuming Tuner 1 is in FM stereo mode and tuned to a station**

<table>
<thead>
<tr>
<th>Command</th>
<th>Response/Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>T1N1&lt;cr&gt;</td>
<td>Tuner 1 would step up to the next higher preset number</td>
</tr>
<tr>
<td>T1L6&lt;cr&gt;</td>
<td>Tuner 1 would set the currently tuned station as FM preset #1</td>
</tr>
<tr>
<td>T1T10&lt;cr&gt;</td>
<td>Tuner 1 would switch the FM mode to mono</td>
</tr>
<tr>
<td>T1M1&lt;cr&gt;</td>
<td>Tuner 1 would step up the frequency 0.2 MHz</td>
</tr>
<tr>
<td>T1A0&lt;cr&gt;</td>
<td>Tuner 1 would go into “seek down” mode</td>
</tr>
<tr>
<td>T1B1&lt;cr&gt;</td>
<td>Tuner 1 would go to AM mode and tune to the last previously tuned AM station</td>
</tr>
</tbody>
</table>
AM/FM STEREO DUAL TUNER

This appliance has a serial number located on the rear panel. Please record the model number and serial number and retain them for your records

Model number: __________________________
Serial number: _________________________

Xantech Corporation 13100 Telfair Avenue, Second Floor Sylmar, CA 91342-3573 Sales: 800.843.5465 • Fax: 818.362.9506

Thank you for choosing XANTECH. Read this manual carefully to get the best performance from this unit.