

TPA-20U Broadband UHF Preamp

User Manual



The lightning flash with arrow-head symbol within an equilateral triangle is intended to alert you to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electrical shock to persons.



CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN



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

TO REDUCE THE RISK OF ELECTRICAL SHOCK, DO NOT REMOVE COVER FROM THIS UNIT. NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

NOTE TO SYSTEM INSTALLER

This reminder is provided to call the System Installer's attention to Article 820-40 of the NEC that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

WARNING

INSTALLATION OF THIS PRODUCT NEAR POWER LINES IS DANGEROUS. FOR YOUR SAFETY, FOLLOW THE INSTALLATION DIRECTIONS.

HOW TO SAFELY INSTALL YOUR OUTDOOR TV ANTENNA PREAMPLIFIER

IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE
U.S. CONSUMER PRODUCT SAFETY COMMISSION

THESE SAFETY RECOMMENDATIONS ARE FOR USE WITH
ANTENNAS & PREAMPLIFIERS

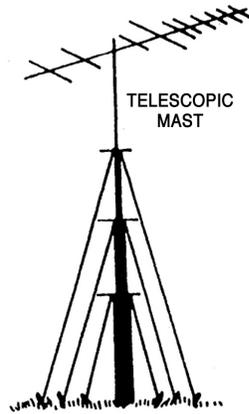
INSTALLATION INSTRUCTIONS **YOU, YOUR ANTENNA, PREAMPLIFIER & SAFETY**

Each year hundreds of people are killed, mutilated or receive severe permanent injuries when attempting to install an antenna. In many of these cases, the victim was aware of the danger of electrocution, but did not take adequate steps to avoid the hazard.

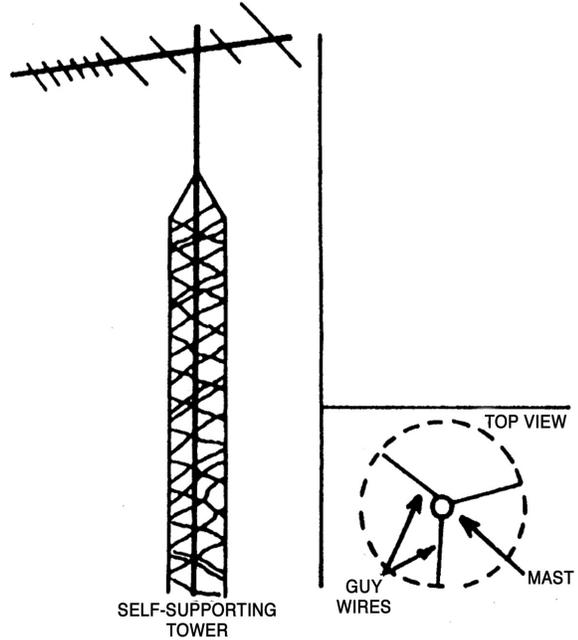
For your safety, and to help you achieve a good installation, please **READ** and **FOLLOW** the safety precautions below: **THEY MAY SAVE YOUR LIFE!**

1. If you are installing an antenna for the first time, please, for your own safety as well as others, seek **PROFESSIONAL ASSISTANCE**. Consult your dealer. He can explain which mounting method to use for the size and type antenna you are about to install.
2. Select your installation site with safety, as well as performance, in mind. (Detailed information on Site Selection appears in a separate section of this booklet.) **REMEMBER: ELECTRIC POWER LINES AND PHONE LINES LOOK ALIKE. FOR YOUR SAFETY, ASSUME THAT ANY OVERHEAD LINES CAN KILL YOU.**
3. Call your electric power company. Tell them your plans and ask them to come look at your proposed installation. This is little inconvenience, considering **YOUR LIFE IS AT STAKE**.
4. Plan your installation procedure carefully and completely *before* you begin. Successful raising of a mast or tower is largely a matter of coordination. Each person should be assigned to a specific task, and should know what to do and when to do it. One person should be designated as the "boss" of the operation to call out instructions and watch for signs of trouble.
5. When installing your antenna, **REMEMBER:**
DO NOT use a metal ladder.
DO NOT work on a wet or windy day.
DO dress properly—shoes with rubber soles and heels, rubber gloves, long sleeve shirt or jacket.
6. If the assembly starts to drop, get away from it and let it fall. **REMEMBER: The antenna, mast, cable, and metal guy wires are all excellent conductors of electrical current. Even the *slightest touch* of any of these parts to a power line completes an electrical path through the antennas and the installer—**THAT'S YOU!****
7. If any part of the antenna system should come in contact with a power line—**DON'T TOUCH IT OR TRY TO REMOVE IT YOURSELF. CALL YOUR LOCAL POWER COMPANY.** They will remove it safely.
8. If an accident should occur with the power lines—
DON'T grab hold of the person in contact with the antenna and power line or you, too will be electrocuted. Use a DRY board, stick or rope to push or pull the victim away from the antenna. If the victim has stopped breathing, administer artificial respiration—and stay with it. Have someone call for medical help.

**THESE MOUNTING STRUCTURES CAN BE
FREE STANDING OR ALONG
SIDE OF BUILDING**

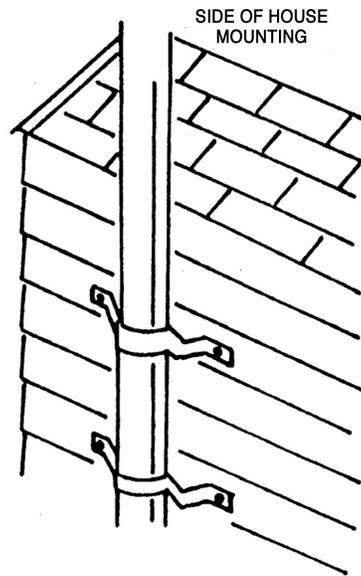


Guy wires should be equally spaced in at least three directions. Use at least three guy wires for each 10 foot section of mast.



SIDE OF HOUSE MOUNT

The safe distance from power lines is at least twice the height of antenna and the mast combined.



Toner TPA-20U User Manual

Congratulations on your purchase of the TPA-20U Preamp. The TPA-20U is a complete package that includes the Preamp, Power Supply, Mast Clamp, LTE Filter and CTB-15 weather sealing tape for the F connectors. (photo 1)



Photo 1

The TPA-20U preamp is used on UHF antennas for the reception of UHF TV channels. It has a very low noise figure so as to minimize unwanted signal degradation while providing 20 dB of amplification to overcome the loss in a lengthy drop cable from the antenna to the receiver or processor. It will not improve a poor quality image or signal.

The TPA-20U should be mounted on the antenna mast or antenna boom using the enclosed mast clamp. The preamp is designed to be mounted with the faceplate and F connectors facing down. The housing is die cast aluminum and curved to shed water. If the preamp is not mounted like this, it will fail when it gets wet. (photo 2)



Photo 2

Once the TPA-20U is mounted, a short piece of coax (RG-6) should be installed between the antenna connector and the preamp input connector marked "Antenna In". (photo 3)



Photo 3

A LTE filter is included in the package and should be installed if needed either on the antenna F connector or the Preamp input connector so as to reduce LTE (Cell phone) signal interference. NOTE: Install the LTE filter on the input side of the preamp so interference is reduced before amplification. Then install the antenna down lead from the preamp on the RF Out connector. (photo 4)



Photo 4

Next it is recommended to use the weather sealing tape that is included with the preamp to protect the connectors from moisture. The weather sealing tape is CTB-15 and is designed to be stretched as it is wrapped around the F connectors. There is a 20dB test connector on the preamp. It is recommended to use a 75Ω Terminator on this connector. (photo 5)



Photo 5

Now you can connect the antenna down lead to the TPA-20U power supply using the left F connector marked "To Preamp +18VDC" this will diplex 18 volts DC on the down lead cable to power the preamp. The right hand F connector should be connected to your signal processor or receiver. (NOTE there is no voltage on this connector). Plug the power supply into a reliable wall socket that is not liable to be turned off or have the power supply unplugged. The power supply has a green led to show that power is present. (photo 6)



Photo 6

Specifications

Frequency	470-700 MHz
Noise Figure	2.5 dB
Gain	20 dB \pm 2 dB
Flatness	\pm 2.0 dB
Input Range	-20 to +25 dBmV
Impedance	75 Ohm

Power

Voltage	5 to 18 VDC
Watts	<10

Mechanical

Mast Diameter	1.25" - 1.50" (31 - 38 mm)
Dimensions	3.54 x 2.75 x 1.8 inches (90 x 70 x 46 mm)
Weight	1.3 lbs (0.57 kgs)