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Introduction

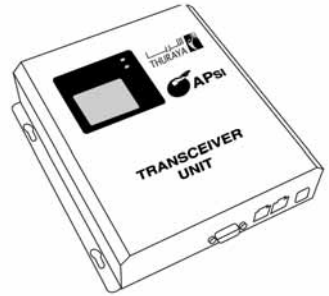
TU-2500 provides additional flexibility and convenience to your use of the Thuraya terminal. (Please note that Thuraya terminals are available separately from the local service provider) TU-2500 and its accessories are designed and manufactured to meet Thuraya's superior specifications and world-class quality standards. TU-2500 enhances the capabilities of the Thuraya terminal to meet your communication requirements inside home and office.

Attention

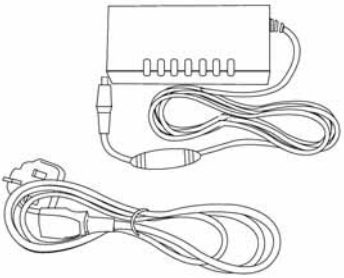
This Product, TU-2500 is set up as the Standard type at first, therefore, if you want to use it as Payphone or Common type, you should download suitable software according to its purpose. Contact your service provider for further information.

Package Contents

TU-2500 Package consists of the following

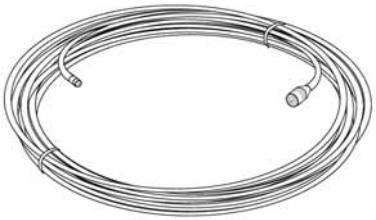


TU-2500

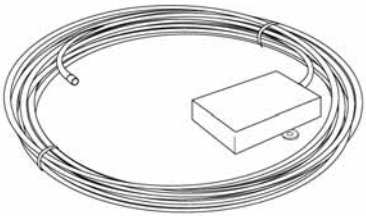


AC/DC Power adapter

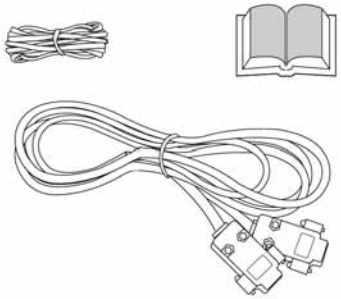
Satellite antenna and mounting adapter



Satellite antenna cable (25meter)



GPS antenna with cable (25meter)



RS-232 cable, RJ-11 cable and TU-2500 User Manual

Installation Instructions

After unpacking and ensuring that TU-2500 and all its accessories are intact and present, proceed with the installation. Please read the instructions carefully. If you encounter any difficulty in installation, contact your service provider for assistance.

Antenna Installation

The TU-2500 antennas set consists of the following components:

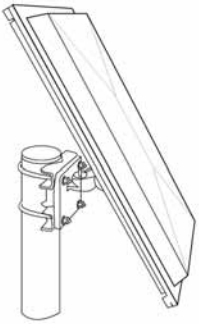
1. Satellite Antenna with mounting adapter.
2. Satellite antenna cable for connecting Satellite antenna to TU-2500 (25 meter).
3. GPS Antenna with attached coaxial cable for connecting with TU-2500 (25 meter).

Note: If you are using a maritime antenna, please refer to the maritime antenna installation guide

Installing Satellite Antenna

The satellite antenna is a rectangular patch antenna, and is supplied along with a mounting adapter. The mounting adapter also has an elevation angle adjust function.

1. Mount the antenna on to any suitable fixture (mounting pole or wall) on the rooftop using the mounting brackets and the bolts provided. The anten na should be facing skywars in the direction of the THURAYA satellite and should be at the appropriate angle. The angle can be adjusted us ing the angular information provided on the mounting adapter(Details will be provided in the antenna installation guide book).
2. Fix the antenna in such a way that the connector at the base



is accessible when mounted.

4. Connect the coaxial cable (marked “Satellite Antenna Cable”) to the antenna connector located at the base of the satellite antenna and tighten it properly by turning it clockwise. Leave enough length for a small loop and secure the rest of the cable using the cable ties.
5. Connect the other end of the satellite antenna to the

satellite antenna connector marked "SAT" on the TU-2500 by the side of the connectors.

6. Adjust the azimuth and the elevation angle of the antenna according to where you are (Details will be provided in the antenna installation guide book), so as to ensure the highest signal quality, indicated on the LCD display.

Installing GPS Antenna

The GPS antenna comes with attached coaxial cable for connecting with the TU-2500 unit.

1. Find an appropriate location on the rooftop to mount the antenna on to any suitable fixture/surface.
   Make sure that there is a clear view of the sky. ***Maintain a separation of about 0.5 to 1 meter between GPS and Satellite antenna.***
2. Mark locations of the "screw holders"on the surface/rooftop for fixing the antenna.
3. Drill holes of adequate depth on the surface.
4. Keep the antenna in place so that the drilled holes and the screw holders are matched.
5. Fix the antenna securely using the screws provided.
6. Connect the free end of the attached cable to the GPS antenna connector marked "GPS" on the TU-2500.

External Accessories

TU-2500 needs to have external accessories for full functionality. Please make sure that you have the following:

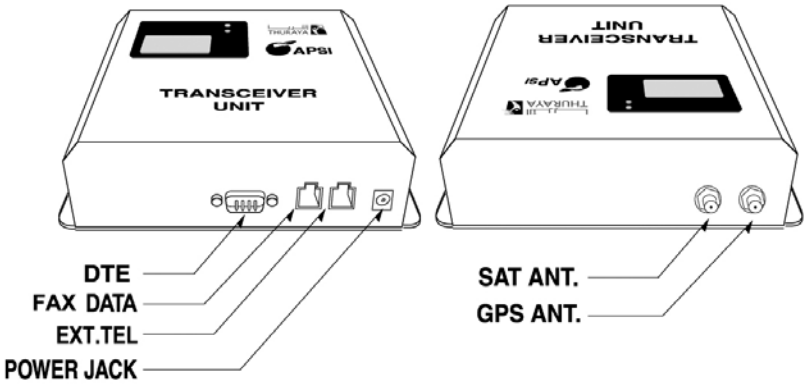
1. Personal Computer (PC) for Data transfer and PC Fax.
2. Group 3 Fax machine for sending/ receiving Fax.
3. FAX software for PC Fax
4. Extension phone

Note: The RJ-11 cable should be 2-wire inner at both ends.

Getting Started

TU-2500 is intended to be used as a desktop or wall-mounted unit. Slots are provided at the base of the unit to allow TU-2500 to be hooked securely to a wall. Interface for connecting external equipments such as Group 3 fax machine and PC are provided at the back side of the unit.

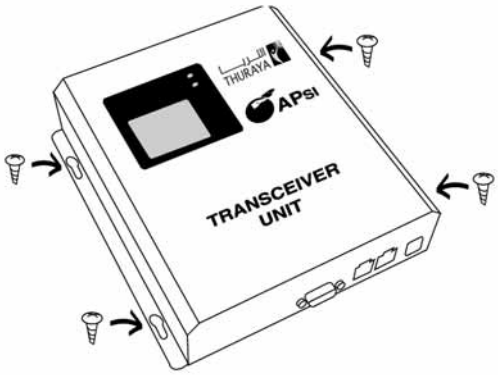
Connection Interface



Setting up TU-2500

Using TU-2500 as a desktop unit

To use TU-2500 as a desktop unit, find an appropriate location on your desktop where you can easily access the unit. Make sure that you have an electrical outlet nearby for powering up TU-2500.



Using TU-2500 as a wall mounted unit

TU-2500 can be fixed on the wall by slots that are located on the sides of the TU-2500.

"Connect extension phone, to start making calls over Thuraya"

Mounting TU-2500 on the wall

1. Find an appropriate location on the wall for placing the TU-2500 as a mounted unit.
2. Place the TU-2500 on the fixing location and mark the location of screw hole.
3. Place a suitable nails length on the wall for mounting TU-2500.

Connecting GPS Antenna

1. Connect the coupler at the free end of the coaxial GPS antenna cable with the connector on TU-2500 marked "GPS".
2. Tighten the connector by turning it clockwise.

Connecting Satellite Antenna

1. Connect the coupler at the free end of the coaxial satellite antenna cable with the connector marked "SAT" on TU-2500.
2. Tighten the connector by turning it clockwise.

Connecting TU-2500 to Power Supply Adapter

Plug the Power Supply Adapter connector into the DC IN connector on TU-2500.

Use the other end of the Power Supply Adapter to connect TU-2500 to the main power source.

1. Connect the dc plug of AC/DC power adapter to TU-2500, and AC power cord to AC/DC adapter.
2. Connect AC power cord to the external power source.
3. Switch ON the power source.

The power LED on top of TU-2500 glows red indicating that the unit is powered and its ready for use.

Connecting Extension Phone to TU-2500

Extension phone can be connected to TU-2500 at RJ-11 interface using an RJ-11 cable.TU-2500 includes two RJ-11 interfaces. Extension phone should be connected to the RJ-11 interface marked "EXT.TEL".

1. Plug one end of the RJ-11 cable to the RJ-11 interface marked "EXT.TEL" on TU-2500.
2. Connect the other end of the RJ-11 cable to the RJ-11 interface of the phone.

Note: You must have a phone unit and 2-wire RJ-11 cable to use this feature. Phone is not supplied with the TU-2500 unit.

Connecting Group 3 Fax Machine to TU-2500

TU-2500 can be used for sending and receiving fax messages when connected to a Group 3 fax machine at the RJ-11 interface. TU-2500 includes two RJ-11 interfaces. Group 3 fax machine should be connected to the RJ-11 interface marked "FAX/DATA".

1. Plug one end of the RJ-11 cable to the RJ-11 interface marked "FAX/DATA" on TU-2500.
2. Connect the other end of the RJ-11 cable to the Group 3 fax machine.

Note: Contact your service provider to check for Fax service on the SIM Card

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Connecting a PC to TU-2500 through DTE port

You can use your TU-2500 for connecting a PC through the DTE interface on TU-2500.

1. Plug in one end of the serial cable to the COM1 or COM2 port of your PC.
2. Connect the other end of the serial cable to the DTE interface marked "DTE" on TU-2500.

Note: Contact your service provider to check for Data service on the SIM Card

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Connecting a PC to TU-2500 through Voice band modem connected at the RJ-11

You can connect your PC to TU-2500 through a voice band modem connected at the RJ-11 interface of TU-2500.

1. Plug in one end of the RJ-11 cable to the RJ-11 interface of TU-2500.
2. Plug in the other end of the RJ-11 cable to voice band modem (Internet modem).

Thuraya Terminal in TU-2500

The LCD of embedded Thuraya terminal (TU-2500 LCD) display will show "Fixed Adapter"for few seconds if the operation is done successfully (There should be maximum signal strength in the display, otherwise inform the service provider).

Receiving / Making Calls

You can receive and make calls using TU-2500. Make sure that all these conditions are met before Making /Receiving a call.

1. SIM card is valid.
2. TU-2500 is switched ON.
3. TU-2500 LCD display shows "Fixed Adapter"for few seconds (It may not show if GPS location is displayed).
4. Adequate satellite signal strength is shown in the TU-2500 LCD display.
5. All the connections are done properly as given in this manual.

Important

When switched ON, TU-2500 will take up to ten seconds to reach the normal working condition.

Receiving Calls

The incoming calls to TU-2500 is indicated by,

1. Ringing tone in the extension phone.
2. Pick up the handset of the Extension phone.

You can accept incoming calls at the extension phone.

Making Calls

You can use the TU-2500 for making outgoing calls. Make sure that TU-2500 is activated before proceeding with the call.

1. Pick up the handset of the Extension phone.
2. Wait for the dial tone.
3. Dial the destination number on the Extension phone keypad.
4. Press # on the Extension phone keypad as the last digit.

Note: To make a call from an extension phone, you must dial # as a last digit after the destination number. In this case, Thuraya terminal will call 5

seconds later, and in case of dialing * as a last digit, Thuraya terminal will call instantly.

Ending Calls

Place the handset of the extension phone on its cradle.

Receiving / Sending Fax Message

You can use TU-2500 for receiving and sending fax messages. This can be done either by a group 3 fax machine connected at the RJ-11 interface or through a PC connected to DTE interface on TU-2500. For sending fax through PC, your PC should have appropriate PC Fax Software installed.

Receiving / Sending fax through fax machine

> Receiving Fax

1. Switch ON TU-2500.

Note : A ring tone in the fax machine indicates an incoming fax call.

2. Switch on group 3 fax machine that connected to RJ-11 interface marked "FAX /DATA" on TU-2500.

> Sending Fax

1. Switch on group 3 fax machine connected at the RJ-11 interface of TU-2500 and place the fax sheet on the fax machine.
2. Switch ON TU-2500.
3. Dial the destination number followed by"#"
4. Dial the connection speed number with the call type number followed by"#".
5. Press Fax start button.

An example shown below:

E.g. 12345678#32#then FAX Start button

The fax will be sent now.

You must press the fax start button after entering the second "#"

> Important

The two digits dialed between the two #s indicate the following.

First digit 1, 2, or 3 will indicate the fax connection speed.

"1" indicates 2.4 Kbps speed.
"2" indicates 4.8 Kbps speed.
"3" indicates 9.6 Kbps speed.

Second digit 1 or 2 will indicate the call type.

"1" indicates data call.
"2" indicates fax call.

Receiving / Sending fax through PC

You can send/receive fax through a PC connected to the DTE interface.

> Important!

For sending/receiving fax through PC, you must have appropriate fax software installed in your PC.

Note

While sending fax through PC connected at the DTE interface, the fax software should be configured in the class 2.0 mode.

> Receiving Fax

1. Connect the PC to the DTE interface of TU-2500.
2. Switch ON TU-2500.
3. Activate the fax software.
4. If there is no group 3 fax machine or PC connected through voice band modem present at the RJ-11 interface of TU-2500, incoming fax calls will be received by the PC connected at the DTE interface.

> Sending Fax

1. Connect the PC to the DTE interface of TU-2500 or to the voice band modem connected to TU-2500 RJ-11 interface marked "Fax/Data".
2. Switch ON TU-2500.
3. Invoke the PC fax software.
4. While configuring the fax software, select 'fine' as a resolution.
5. Enter the destination number. E.g. 12345678
6. Select the document/file to be sent.
7. Enter the destination number. E.g. 12345678
8. Use the appropriate option in the fax software to send the fax.

Note: No need to dial #32# after the destination number while using fax on the PC.

Receiving / Sending Data Calls

Use TU-2500 for receiving and making data calls. You can do this through a PC connected at the DTE interface or through a PC connected via voice band modem at the RJ-11 interface. To receive/make data calls by a PC, appropriate data communication software should be installed in the PC.

Note: The baud rate of PC data communication software should be set up the 19200bps (Baud rate of PC communication software should be set to 19200bps both in sender and recipient's PC).

Receiving Data Calls

The PC connected through the voice band modem at RJ-11 will receive the data call by default. If voice band modem is not connected, then will attempt to route the call to the PC connected at DTE. To receive a data call on the PC appropriate data communication software should be running, e.g. Hyper terminal (default program available in Windows OS).

1. Connect PC through DTE interface.
2. Switch ON TU-2500.
3. Invoke the data communication software.
4. You will hear a special signal tone in the embedded thuraya terminal when a data call is coming through.
5. The data will be received by the communication software

(Look up the S/W guide book for the specific explanation).

Sending Data from PC

1. Switch ON TU-2500.
2. Invoke the data communication software in your PC.
3. Dial the destination number as shown below.
   E.g. ATDT 12345678
4. Select the data file to be sent.
5. Use appropriate options in the data communication software to send the file now
   (Look up the S/W guide book for the specific explanation).

Sending data through the voice band modem

1. Switch ON TU-2500.
2. Invoke the data communication software in your PC.
3. Dial the destination number and then the speed of the data connection and type of the call as shown below.
   E.g. 12345678#31#
4. Select the data file to be sent.
5. Use appropriate options in the data communication software to send the file now.

> Important

The two digits dialed between the two #s indicate the following.

First digit **1, 2, or 3** will indicate the data connection speed (baud rate).

"1" indicates 2.4 kbps speed.
"2" indicates 4.8 kbps speed.
"3" indicates 9.6 kbps speed.

Second digit **1 or 2** will identify the call type.

"1" indicates data call.
"2" indicates fax call.

Code Locking Function

Extension phone is used for code locking function which is supported by TU-2500. This code locking function is operated by entering passwords. This function is not for HHT phone connection but for TU-2500 which has the code locking function.

How to set up the Code Locking Function

The PIN Code of TU-2500 is set to "0000" as a default.

> How to enter the PIN Code

1. Connect the extension phone to RJ-11 interface marked "EXT.TEL" on the TU-2500. Pick up the extension phone handset.
2. Press "#*" → 0000 → * → New Code (4 digit) → "*"
   (ex. #*0000*1234*)
3. Hang up the phone after hearing the beep which indicates that the PIN Code is successfully changed.

> Enable PIN Code Locking Function

1. Connect the extension phone to RJ-11 interface marked "EXT.TEL" on the TU-2500. Pick up the extension phone handset.
2. Press "**" → User Code →

"*" (ex. **1234*)

3. Hang up the phone after hearing the beep which indicates that the PIN Code is successfully enabled.

> Disable PIN Code Locking Function

1. Connect the extension phone to RJ-11 interface marked "EXT.TEL" on the TU-2500. Pick up the extension phone handset.
2. Press "*#" → User Code → "*" (ex. *#1234*)
3. Hang up the phone after hearing the beep which indicates that the PIN Code is successfully disabled.

> How to Change the PIN Code

1. Connect the extension phone to RJ-11 interface marked "EXT.TEL" on the TU-2500. Pick up the extension phone handset.
2. Press "#*" → Old Code → * → New Code (4 digit) → "*" (ex. #*1234*5678*)
4. Hang up the phone after hearing the beep which indicates that the PIN Code is successfully changed.

How to make a call

Calling Methods with PIN Code disabled		
Voice Call	EXT. TEL interface	Telephone Number → #
FAX Call	FAX/DATA interface	FAX Number → # → 32 → # → Start Button PC FAX S/W : FAX Number
Data Call	DTE interface	Running PC S/W Data Call Number
	FAX/DATA interface	Running PC S/W Data Call Number → # → 31 → #

Calling Methods with PIN Code enabled		
Voice Call	EXT. TEL interface	PIN Code → * → Telephone Number → #
FAX Call	FAX/Data interface	PIN Code → * → FAX Number → # → 32 → # → Start Button PC FAX S/W : FAX Number
Data Call	DTE interface	Running PC S/W Data Call Number
	FAX/DATA interface	Running PC S/W PIN Code → * → Data Call Number → # → 31 → #

In the case of Forgetting the PIN Code

If you forget the PIN Code that you set up, you should reset your TU-2500 by visiting the service center. So, you should remember the PIN Code you set up, and write it down in a safe place.

Supplementary Services

There are a host of supplementary services supported by the Thuraya terminal, which are also supported by TU-2500. Set these functions using the Thuraya terminal.

Troubleshooting

Warnings!

> Servicing

TU-2500 does not contain consumer serviceable components. You are advised not to carry out any kind of troubleshooting. In case you face any problems, contact the nearest service center. Only authorized service personnel can repair the equipment.

> Antenna

Use only the antenna and cable that has been specifically designed for your TU-2500. Unauthorized antenna, cable, and cable length modifications, or attachments could damage TU-2500 and may violate the relevant regulations, causing loss of performance and radio frequency (RF) energy above the recommended limits. If your TU-2500's antenna gets damaged, please take it to an authorized service provider.

> General

- Do not place the TU-2500 in a wet area.
- Do not expose TU-2500 to temperatures greater than +55° Celsius or less than 0° Celsius.
- Do not expose TU-2500 to moisture, dust etc.
- Avoid placing TU-2500 close to open flames or any source of heat.
- Do not expose TU-2500 to direct sunlight.
- Do not disassemble TU-2500; this will void your warranty.

Care and maintenance

TU-2500 is a product of superior design and craftsmanship and should be treated with care. The following suggestions will help you to fulfill any warranty obligations and allow you to enjoy this product for many years.

Do not use or store TU-2500 in dusty, dirty areas.

Do not store it in hot areas. High temperatures can shorten the life of electronic devices, damage batteries, and warp or melt certain plastics.

Do not attempt to open it. Mishandling of the device may damage it.

Do not drop, apply pressure or shake it. Rough handling can break internal circuit boards.

Do not use chemicals, cleaning solvents, or strong detergents to clean it. Wipe it smoothly with a soft cloth.

Do not paint it. Paint can clog the device's moving parts and prevent proper operation.

Use only the supplied or an approved replacement antenna. Unauthorized antennas, modifications or attachments could damage the phone and may violate regulations regarding radio devices.

If the phone, battery, charger, or any accessory does not function properly, take it to your nearest Authorized Service Center. The personnel there will assist you, and if necessary, arrange for service.

Common Problems

- There is no enough satellite signal strength (Indicated in the LCD display). There should be a minimum of two bars present. Otherwise, adjust the antenna properly).
- The SIM card is invalid.
- TU-2500 should be switched ON (indicated by "Fixed Adapter" message on the LCD and power LED for few seconds on TU-2500).
- Connections are not proper and firm.

Problem	Solution
Unable to make/receive calls	- Check the RJ-11 connection - If Extension Phone is OK, then call the service provider.
Unable to send/receive fax through RJ-11	- Check and make sure that the RJ-11 interface is connected properly. - Check whether the fax machine is switched ON. - Check whether the fax machine is functional.
Unable to Send/Receive fax through PC	- Make sure that you have appropriate PC Fax software installed in your system for receiving fax through PC. - Check parameters on the fax software that you are using.
Unable to receive the fax through RJ-11	- Make sure that the group 3 fax is in the auto response mode.

LED Indications

LED Status	Indication
The Power LED of TU-2500 is Red.	TU-2500 is powered ON.

Warranty

Limited Warranty
TU-2500

This Limited Warranty is provided to the original purchaser of TU-2500. This Limited Warranty is non-transferable in nature.

Warranty Coverage and Service

APSI warrants all new TU-2500 terminals to be free from defects in material and workmanship under normal use and wear, for a period of one year (1 year) from the date of purchase. If under normal use the product becomes defective in materials or workmanship and is returned to an APSI Authorized Service Center during the warranty period, the product will be repaired or replaced at no charge to the purchaser. The purchaser shall be required to provide reasonable proof of the date of purchase of the Product.

Repair or replacement of the Product is subject to APSI System Design's sole and exclusive option. Reconditioned replacement components, parts, units, or materials may be used if the Product is repaired or replaced. Cost incurred in the removal, de-installation or reinstallation of the Product are not covered.

This Limited Warranty will be void in its entirety if the Product is serviced by anyone other than APSI or an APSI Authorized Service Center. The User's sole and exclusive remedy shall be repair or replacement of the Product. APSI neither assumes nor authorizes any Authorized Service Center or any other person or entity to assume any other obligation or liability beyond that which has been specified in this Limited Warranty.

Limitation of Liability

All liability and obligations of APSI under this Limited Warranty shall terminate on the completion of the warranty period of one year, calculated from the date of purchase of the Product by the original purchaser. The purchaser shall fill in the warranty card attached in the User Manual and get it duly stamped and signed by the Dealer as proof of purchase. This limited warranty sets forth the entire responsibility of APSI with respect to the product. There are no other liabilities of APSI arising from the sale of the Product whether based on warranty, contract, negligence or any other theories of liability.

This Warranty does not cover the following

APSI will not be responsible for products or accessories not manufactured or provided by APSI. APSI will not take responsibility for the failures caused by misuse, accident, alteration or neglect, removal or repair, neglect or failure to follow instructions as to installation and maintenance, fire, flood or other natural calamities. APSI will not guarantee the performance of the Product when used in combination with other products or equipment.