Chapter 1 Introduction

1.1 Overview

The SRT (Subscriber Radio Terminal) is a family of products which allow standard telephone equipment to access cellular networks. It is easily installed by the user and can be attached to one or several telephones, answering machines, facsimiles, or Hayes compatible modems.

The SRT provides basic telephone services to remote rural and suburban areas where existing land-based networks are expensive, lacking in security, or of sub-standard quality.

The SRT7010 is based on the Advanced Mobile Phone System (AMPS) standard and interfaces with any cellular network based on AMPS. It is fully compatible with AMPS protocols and conforms to the EIA/TIA–553 (USA) and TS-005 (Australian) standards.

The SRT family is also known as the AccessPhone and model SRT7010 as the Isonex 3000.

The system consists of

- SRT
- AC Power pack (supplied as an option)
- Whip antenna

Plugging a standard telephone device into the SRT unit allows a user to obtain access to the Public Switched Telephone Network (PSTN) via the cellular network.

Warning:
To ensure that the FCC RF exposure requirements for mobile transmitters are met, whilst operating this device the user should remain at least 20 cm from the antenna.

17 September, 1999

Federal Communications Commission
Equipment Approval Service
P.O. Box 358315
Pittsburgh, PA 15251-5315

Re: **ADI Ltd. SRT7010/Isonex 3000 Access Phone**
FCC ID: N6FSRT7010
EAS 92750
Correspondence Ref. # 6738 -Reply

Gentlemen:

Pursuant to e-mail with your Kwok Chan on Friday May 5, 1999 2:10PM here are ADI's changes to their documentation (next 7 pages of this PDF file):

a. 4 pages from the technical manual which has been updated to Issue 1.03:
   - page 1.1 FCC RF Exposure warning added
   - page 2-5 All references to other antennas deleted
   - page 4-23 Explicit reference to device only providing 4.4dBW
   - Appendix A Explicit reference to the RF output being 2.75W
b. The updated Users Guide with the FCC RF Exposure warning added (2 pages)
c. The drawing for the FCC RF Exposure warning label showing the text and where it is to be affixed to the device

To simplify cross-referencing these to the original comments I am including the May 5th e-mail from Kwok Chan to Frank Coperich below, with comments:

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Frank:

This is the ADI wireless local-loop, EAS 92750 -

1.  response #1 -we need to scan in the MPE report or Aprel can upload
a copy, whichever works.  I still have the paper copy of MPE report.
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I e-mailed a PDF version to Kwok Chan on May 14th which he in turn electronically "dropped in the PDF file for MPE data into the EAS for ADI, EAS 92750".

2. response #2 - we need to change the requested Tx frequency range for this device. Do we need to list Rx frequency? See their response.

This is in your hands.

3. ADI should change its manual to reflect actual device output. They need to know that the device is only authorized to operate at (or up to) whatever maximum output listed on the grant.

Appropriate changes have been made to page 4-23 and Appendix A.

4. response 4 & 5: ADI should provide a copy of the warning statement to be included in the manual and indicate where in the manual. A sample of the warning label and where it will be placed on the device to ensure a 20 cm separation is needed. The warning label should be clearly visible and readable by persons exposed to the transmitter and have the word "WARNING", the required separation distance and purpose (for meeting FCC RF exposure requirements for mobile transmitters). The warning statement in the manual should have similar information with clearer instructions on how to operate the unit to meet the 20 cm separation and/or what are not allowed.

5. response #7 - ADI needs to revise the manual and acknowledge that the half-wave whip will be the only antenna to be used by this device.

Appropriate changes have been made to page 2-5.

[snip]

Kwok Chan

Thank you for your cooperation,

Sincerely,

Paul G. Cardinal
Director, Laboratories

2.3 Antenna

A small whip antenna is connected directly to the SRT. Figure 2–3 shows the whip antenna.

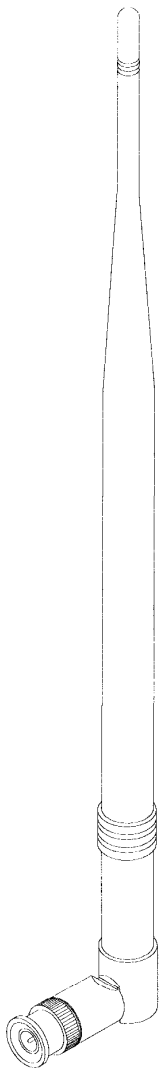


Figure 2–3 **Whip Antenna**

The output of the comparator controls the PA gain and thus the TX power level.

The EIA/TIA-553 (AMPS) standard (section 2.1.2.2) defines 8 power levels (attenuation levels) from level 0 (max power) to level 7 (minimum power) at 4 dB steps. Mobiles are instructed to power up/down by the basestation.

For a class I device such as the SRT the nominal power levels are defined as:

Level	Nominal ERP (dbW)
0	6 (SRT max ~4.4dBW)
1	2
2	-2
3	-6
4	-10
5	-14
6	-18
7	-22

Table 4–3 **SRT Levels**

PWM0 to PWM7 are the ADC values, which define these power levels in the SRT.

PWM0

A control allows specification of the PWM0 parameter value. This value may be in the range from 0 to 255.

The default value is 134.

PWM1

A control allows specification of the PWM1 parameter value. This value may be in the range from 0 to 255.

The default value is 162.

PWM2

A control allows specification of the PWM2 parameter value. This value may be in the range from 0 to 255.

The default value is 189.

PWM3

APPENDIX A

SRT Specifications

General

SRT dimensions	
Maximum Width	160 mm
Maximum Height	35 mm
Maximum Depth	210 mm
Weight	1 kg
Power requirements	
Main AC Power Supply	110 V AC or 240 V AC (using adaptor plug pack)
DC Power	11 to 15 V DC
Power consumption (Max)	4 W (standby), 8 W (typical), 18 W (Maximum)
Transmit power	2.75 W
Transmit method	Full duplex voice channel
Air Interface	Advanced Mobile Phone System (AMPS) E1A-T1A-553
Telephone Interface	Compatible with standard DTMF formats
Dialling Method	Tone
Diagnostics	Built-in
Environmental Conditions	
Operating Temperature	–30°C to +60° C
Operating Humidity	95% (non-condensing)

Other Applications

Facsimile Machines — Facsimile machines can be connected to the Isonex 3000 in the same manner as to a normal telephone socket.

Modems — Modem must be Hayes compatible. Maximum data speed is 9600 bps.
If possible, use MNP10 compression at both ends of the data connection.

Troubleshooting

Reception

If the reception is clear and strong (SIGNAL LED glows green or amber) during your telephone conversations, then the supplied aerial is sufficient for your area.

If the reception is not clear and strong, then seek advice from your service provider on alternate antennas available.

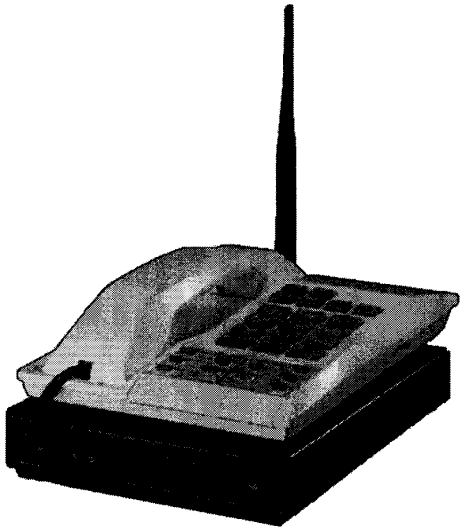
Problems?

If the Isonex 3000 does not operate correctly contact your service provider.

Warning:
To ensure that the FCC RF exposure requirements for mobile transmitters are met, whilst operating this device the user should remain at least 20cm from the antenna.

ADI

Isonex 3000



User's Guide

- Introducing Your Isonex 3000
- Using Your Isonex 3000
- Troubleshooting

ASH-GD-00004 Issue 4.00

Introducing Your Isonex 3000

Your Isonex 3000 gives you the ability to use a normal standard phone to access cellular networks for voice, data and fax transmission.

Equipment

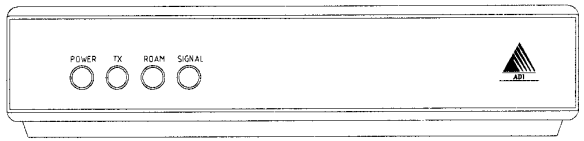
The Isonex 3000 box contains:

- Isonex 3000
- User Guide
- Antenna

Optional accessories

- AC Power pack or
- Uninterruptable power supply (UPS)

Front Panel



On the front panel are four LED indicators:

- POWER — Green Power Indicator. Will blink when first turned on, then a steady green.
- TX — Lights green when the Isonex 3000 is transmitting.
- ROAM — Lights yellow when the service is obtained from a system other than the home system.
- SIGNAL — Will light when the Isonex 3000 is talking to the network and s how signal strength by LED colour.
  - Green strong signal.
  - Amber acceptable signal.
  - Red poor signal.

Using the Isonex 3000

Location

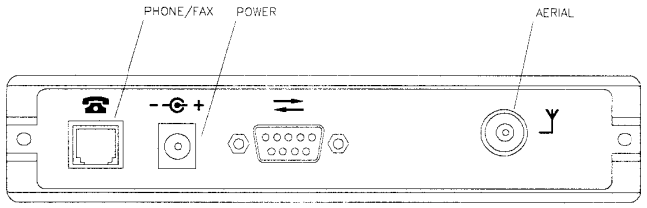
To get the best performance from your Isonex 3000 be sure to:

- Keep in a dry and dust free location.
- Keep away from heat sources.

Operating the Isonex 3000

CAUTION

Use only the supplied power pack or the optional UPS to provide power to the unit.



1. Connect the telephone line from the telephone to the PHONE/FAX jack. ☎
2. Connect the power cable from the AC power pack to the POWER socket. - ⊖ +
3. Connect the aerial to the AERIAL connector. Y
4. You can now use your phone normally (provided your service has been configured).