



ST 3100

Satellite Telecommunication System

Users Manual

AirCell Part Number: 810-10680 • Revision G • May 2005

(Browse www.aircell.com for online manuals with the latest revisions)

Important Telephone Numbers

AirCell Customer Service **AIR1** (2471) Toll-free
001.303.379.0278

AirCell Customer Service Hours of Operation

Monday through Friday, 0730 (7:30 am) to 1700 (5:00 pm)
USA Mountain Time

Aircraft Registration _____

Aircraft Make/Model _____

Aircraft Serial Number _____

Iridium Satellite Network Telephone Number for this Aircraft

Number _____

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1 General Information

Safety Information

For the safe and efficient use of your AirCell ST 3100 Iridium Network telephone, please note the following information.

Your AirCell Iridium phone is a mobile transmitter and receiver. When using your phone, the antenna mounted on the outside of the aircraft transmits and receives radio frequency (RF) energy.

Other Electronic Equipment

Most modern electronic equipment, including personal medical devices (pacemakers, hearing aids, etc.) or equipment in hospitals and cars are shielded from RF energy. However, RF energy from radio telephones may affect some electronic equipment.

ST 3100 Iridium-based Telecommunication System

The ST 3100 telephone accesses the Iridium Satellite Network of 66 Low-Earth Orbit (LEO) satellites and operates in the frequency range of 1616 MHz to 1625.5 MHz. When you use your telephone, the system controls the power level at which your phone transmits. The maximum power level of ST 3100 transmissions is seven watts.

Features

These are a few of your phone system's features:

- Digital Display
- Last Number Redial
- Data Calls
- Handset-to-Handset Intercom

Telephone Overview

01 – Displays the telephone number being dialed or the system status.

02 – Dot in lower left corner displays when the phone is on.

03 – **IN USE** displays when the phone is in use.

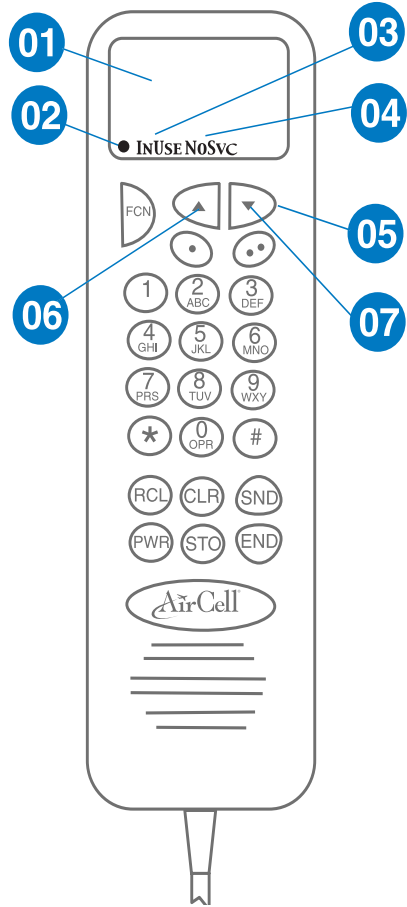
04 – **NoSvc** displays when the phone is not registered or service is unavailable.

05 – Volume keys adjust ear piece volume.

06 –  Scrolls up/Volume up.

07 –  Scrolls down/Volume down.

Note: For information on using the unique features of a cordless handset, please refer to the Cordless Handset Supplement (P/N 811-10590-001).



Emergency and Toll-Free Numbers

The Iridium Satellite Network System for aeronautical use does not currently support Emergency 911 calls.

Toll-free numbers, such as 800, 877, and 888 numbers, may not work for Iridium or international calls.

2 Quickstart Calling Guide

Calling from the Aircraft

When calling from the aircraft, after dialing press .

Calls to USA/Canada

Dial 1 + Area Code + Telephone Number.

Note: On older phones up to Revision C, dial 00 + 1 + Area Code + Telephone Number.

Calls to Outside USA/Canada

Dial 00 (Iridium International Direct Dial access code prefix) + Country Code (USA/Canada = 1) + Telephone Number.

Making Two-Stage Calls to Aircraft from Ground Phones

Two-stage dialing may be a less-costly alternative to direct dialing.

Calls from USA/Canada

Dial 1 + 480.768.2500 (listen for prompt) + Aircraft Iridium Telephone Number (8816.XXX.XXXXX).

Calls from Outside USA/Canada

Dial IDD prefix of the country you are calling from + 1 (USA Country Code) + 480.768.2500 (listen for prompt) + Aircraft Iridium Telephone Number (8816.XXX.XXXXX).

Direct Dialing to the Aircraft from Ground Phones

Dial IDD prefix of the country you are calling from (USA/Canada = 011) + Aircraft Iridium Telephone Number (8816.XXX.XXXXX).

Note: Cellular or ground phones require international dialing capability. Some cellular and long-distance providers may not recognize the 8816 Iridium Country Code.

3 Basic Operation

Turning Power On

Your phone has power anytime the aircraft's main avionics power switch is on. During initial power up, a small dot (•) appears in the display's lower left corner; the dot and the word **IRIDIUM** remain as long as the phone has power. During power up, the words **NoSvc** appear briefly in the display's bottom center. You cannot place a call until the **NoSvc** indicator turns off.



Note: You can only turn power off using the main avionics power switch or the phone's circuit breaker – not by using the handset.

Placing Calls

To place a call:


- 1) With the power on and **NoSvc** indicator off, dial:
 - USA/Canada: Dial 1 + Area Code + Number.

Note: On phones up to Revision C, dial 00 before the 1.


 - International Calls: Dial 00 + Country Code + Number.
- 2) Press the  key.
- 3) When a call has been placed, an **InUse** message appears on the display at lower left. The **InUse** message remains until the phone call is ended by pressing the  key.

Note: You may hear up to five beeps in the 10–12 seconds while your call is being connected.

Redialing

To automatically redial the last number called, press the  key. The last number is redialed, but without appearing on the display.

Receiving Calls

When your telephone rings, pick up the handset and press the  key to answer the phone.

Ending Calls

Always press the  key to end your current call.

Placing Calls to the Aircraft from the Ground

Placing a call to an AirCell ST 3100-equipped aircraft through the Iridium Network is quick and easy. You can either dial direct, or use two-stage dialing, which may be a less-expensive alternative.

Two-Stage Dialing to the Aircraft from the Ground

Two-stage dialing may be the most cost-effective method of calling an AirCell ST 3100-equipped aircraft. Using this method, the calling party is charged by their long distance provider for a call to Tempe, Arizona, USA for the call's duration. The called party (in the aircraft) is charged AirCell per minute charges, from the time the call connects in Tempe, until the call is ended.

To use two-stage dialing:

- 1) Dial the Iridium Call Routing Center:
 - USA/Canada: Dial 1.480.768.2500.
 - Outside USA/Canada: Dial 00** (IDD access code prefix) + 1 (USA Country Code) + 480.768.2500.
- 2) When prompted, dial the 8816 (Iridium Country Code) + XXX.XXXXX (Iridium Network Number you are calling).

The call is routed to the aircraft. If the system is registered on the network, the phone will ring in 4–6 seconds.

Direct Dialing the Aircraft from the Ground

When direct dialing an Iridium-equipped aircraft, there may be a pause of up to 25 seconds as the system completes your call.

To use direct dialing:

- USA/Canada: Dial 011 (IDD) + 8816 (Iridium Country Code) + XXX.XXXXX (Iridium Network Number).
- Outside USA/Canada: Dial 00** (IDD access code prefix) + 8816 (Iridium Country Code) + XXX.XXXXX (Iridium Network Number you are calling).

Learning Basics Before Calling

All calls using the Iridium Satellite Network are considered international calls. When calling Iridium-equipped aircraft, always use the 8816 Iridium Country Code.

Direct-dialed calls to an AirCell ST 3100 phone are billed by long distance providers as international calls. Since rates vary greatly, check rates before making calls. Or use two-stage dialing, which may be more cost effective.

Some long distance providers do not recognize the 8816 Iridium Country Code. Two-stage dialing does recognize the Iridium Country Code.

In the procedures, 00** represents the International Direct Dial (IDD) access code prefix of the country you are calling from. In many countries, the IDD code is 00.

See the Appendix for a list of International Direct Dial (IDD) access code prefixes, as well as Country Codes. For a more current list, refer to Internet sites such as www.iridium.com/customer.

Placing Calls to Another Iridium Phone

To place a call from one Iridium phone to another, dial 00 + 8816 + XXX.XXXXX (other subscriber's Iridium Network Number).

Using Operator-Assisted Calling

The Iridium Network does not support operator-assisted calling.

Using Directory Assistance

The Iridium Network does not support Directory Assistance.

Placing Data Calls

Please call AirCell Customer Service, or visit the AirCell Web site, for the latest instructions and supported equipment for using personal computers over the Iridium Network.

For AirCell Customer Service, dial AIR 1 (2471) toll-free or 001.303.379.0278. Call Monday through Friday from 0730 to 1700, USA Mountain Time.

Using Phones as an Intercom

Two or more AirCell handsets can be used as an intercom; just pick up the handsets and talk. Some custom installations install a remote intercom alert switch to signal another handset location. The alert may consist of either a light, a ringer, or both. Once alerted, use the handset for an intercom conversation within the aircraft.

Understanding Phone Error Messages

If the **ERROR43** message displays after attempting to dial, the cause is either:

- Dialing a number when **NoSvc** (No Service) is displayed.
- Dialing an improper sequence, such as an invalid number.



Resetting the Phone

In the event that the phone becomes inoperative, for example with the display indicating **ERRIO4**, reset the phone's circuit breaker from the cockpit.



4 Volume Settings

Displaying the Volume Meter

The phone's volume meter shows the current volume setting.

The current setting displays whenever you adjust the volume by pressing the  or  keys. The volume level displays as a bar graph after the letter **V** on the display's left side. Each additional bar indicates a higher volume setting, up to a maximum of six.

Changing Ear Piece Volume

You can change the ear piece volume during a call, or whenever the handset is out of the cradle. Increase or decrease the volume by pressing and holding the  or  keys. The maximum setting is six bars.

A Appendix

International Direct Dial Prefixes and Country Codes

To make a call, dial IDD Prefix + Country Code + Phone Number.

Note: At International Direct Dial Prefix access code, wait for second tone.

Location	Country Code	IDD Prefix
AFGHANISTAN	93	00
ALBANIA	355	00
ALGERIA	213	00~
AMERICAN SAMOA	684	00
ANDORRA	376	00
ANGOLA	244	00
ANGUILLA	264*	011
ANTARCTICA	672	
ANTIGUA	268*	011
ARGENTINA	54	00
ARMENIA	374	8-10
ARUBA	297	00
ASCENSION ISL.	247	01
AUSTRALIA	61	0011
AUSTRIA	43	00
AZERBAIJAN	994	8-10
BAHAMAS	242*	001
BAHRAIN	973	0
BANGLADESH	880	00
BARBADOS	246*	011
BARBUDA	268*	011
BELARUS	375	8-10
BELGIUM	32	00
BELIZE	501	00
BENIN	229	00
BERMUDA	441*	011
BHUTAN	975	00
BOLIVIA	591	00
BOSNIA & HERZOGOVINA	387	00
BOTSWANA	267	00
BRAZIL	55	00
BRITISH VIRGIN ISL.	284*	011
BRUNEI	673	00
BULGARIA	359	00
BURKINA FASO	226	00
BURMA (MYANMAR)	95	0
BURUNDI	257	90
CAMBODIA	855	00
CAMEROON	237	00
CANADA	1	011
CAPE VERDE ISL.	238	0

Location	Country Code	IDD Prefix
CAYMAN ISL.	345*	011
CENTRAL AFRICAN REPUBLIC	236	19
CHAD	235	15
CHATHAM ISL., N. ZEAL.	64	00
CHILE	56	00
CHINA (PRC)	86	00
CHRISTMAS ISL.	672	00
COCOS-KEELING ISL.	61	0011
COLOMBIA	57	90
COMOROS	269	10
CONGO	242	00
CONGO, DEM. REP. OF (Former ZAIRE)	243	00
COOK ISL.	682	00
COSTA RICA	506	00
CROATIA	385	00
CUBA	53	119
CUBA (Guantanamo Bay)	5399	00
CYPRUS	357	00
CZECH REPUBLIC	420	00
DENMARK	45	00
DIEGO GARCIA	246	00
DJIBOUTI	253	00
DOMINICA	767*	011
DOMINICAN REPUBLIC	809*	011
EASTER ISL.	56	00
ECUADOR	593	00
EGYPT	20	00
EL SALVADOR	503	0
EQUATORIAL GUINEA	240	00
ERITREA	291	00
ESTONIA	372	8-00
ETHIOPIA	251	00
FAEROE ISL.	298	009
FALKLAND ISL.	500	0
FIJI ISL.	679	05
FINLAND	358	00, 990, 994, 999
FRANCE	33	00

International Direct Dial Prefixes and Country Codes

To make a call, dial IDD Prefix + Country Code + Phone Number.

Location	Country Code	IDD Prefix
FRENCH ANTILLES	596	00
FRENCH GUIANA	594	00
FRENCH POLYNESIA	689	00
GABON	241	00
GAMBIA	220	00
GEORGIA	995	8-10
GERMANY	49	00
GHANA	233	00
GIBRALTAR	350	00
GREECE	30	00
GREENLAND	299	009
GRENADA	473*	011
GUADELOUPE	590	00
GUAM	671*	011
GUANTANAMO BAY	5399	00
GUATEMALA	502	00
GUINEA-BISSAU	245	00
GUINEA (PRP)	224	00
GUYANA	592	001
HAITI	509	00
HONDURAS	504	00
HONG KONG	852	001
HUNGARY	36	00
ICELAND	354	00
INDIA	91	00
INDONESIA	62	001,008
IRAN	98	00
IRAQ	964	00
IRELAND	353	00
IRIDIUM NETWORK	8816	00
ISRAEL	972	
<i>Calling Israel may be illegal in certain locations</i>	(BEZEQ LTD)	00
	(GOLDEN LINES)	012
	(BARAK LTD)	013
	(BEZEQ LTD)	014
ITALY	39	00
IVORY COAST	225	00
JAMAICA	876*	011
JAPAN	81	001
JORDAN	962	00
KAZAKHSTAN	7	8-10
KENYA	254	000
KIRIBATI	686	00
KOREA (NORTH)	850	00
KOREA (SOUTH)	82	001

Location	Country Code	IDD Prefix
KUWAIT	965	00
KYRGYZ REPUBLIC	996	8-10
LAOS	856	14
LATVIA	371	00
LEBANON	961	00
LESOTHO	266	00
LIBERIA	231	00
LIBYA	218	00
LIECHTENSTEIN	41	00
LITHUANIA	370	8-10
LUXEMBOURG	352	00
MACAU	853	00
MACEDONIA (Former YUGOSLAV REPUB.)	389	00
MADAGASCAR	261	16
MALAWI	265	101
MALAYSIA	60	00
MALDIVES	960	00
MALI REPUBLIC	223	00
MALTA	356	00
MARSHALL ISL.	692	00
MARTINIQUE	596	00
MAURITANIA	222	00
MAURITIUS	230	00
MAYOTTE ISL.	269	10
MEXICO	52	00
MICRONESIA	691	011
MIDWAY ISL.	808	00
MOLDOVA	373	8-10
MONACO	377	00
MONGOLIA	976	00
MONTERRAT	664*	011
MOROCCO	212	00~
MOZAMBIQUE	258	00
MYANMAR	95	0
NAMIBIA	264	09
NAURU	674	115
NEPAL	977	00
NETHERLANDS	31	00
NETH. ANTILLES	599	00
NEVIS	869	011
NEW CALEDONIA	687	00
NEW ZEALAND	64	00
NICARAGUA	505	00
NIGER	227	00

International Direct Dial Prefixes and Country Codes

To make a call, dial IDD Prefix + Country Code + Phone Number.

Location	Country Code	IDD Prefix
NIGERIA	234	009
NIUE	683	00
NORFOLK ISL.	672	00
NORTH KOREA	850	00
NORWAY	47	00
OMAN	968	00
PAKISTAN	92	00
PALAU	680	00
PANAMA	507	0
PAPUA NEW GUINEA	675	05
PARAGUAY	595	00
PERU	51	00
PHILIPPINES	63	00
POLAND	48	0-0
PORTUGAL	351	00
PUERTO RICO	787*	1
QATAR	974	0
RÉUNION ISL.	262	00
ROMANIA	40	00
ROTA ISL.	670	011
RUSSIA	7	8-10
RWANDA	250	00
ST. HELENA	290	01
ST. KITTS/NEVIS	869*	011
ST. LUCIA	758*	011
ST. PIERRE & MIQUELON	508	00
ST. VINCENT & GRENADINES	809*	011
SAIPAN ISL.	670*	011
SAN MARINO	378	00
SAO TOMÉ & PRINCIPE	239	00
SAUDI ARABIA	966	00
SENEGAL	221	00
SERBIA	381	00
SEYCHELLES ISL.	248	00
SIERRA LEONE	232	00
SINGAPORE	65	001
SLOVAK REPUBLIC	421	00
SLOVENIA	386	00
SOLOMON ISL.	677	00
SOMALIA	252	19
SOUTH AFRICA	27	09, 091
SOUTH KOREA	82	001
SPAIN	34	07~
SRI LANKA	94	00
SUDAN	249	00

Location	Country Code	IDD Prefix
SURINAME	597	00
SWAZILAND	268	00
SWEDEN	46	009
SWITZERLAND	41	00
SYRIA	963	00
TAIWAN	886	002
TAJIKISTAN	7	8-10
TANZANIA	255	00
THAILAND	66	001
TINIAN ISL.	670	011
TOGO	228	00
TOKELAU	690	00
TONGA ISL.	676	00
TRINIDAD & TOBAGO	868*	011
TUNISIA	216	00
TURKEY	90	00
TURKMENISTAN	993	8-10
TURKS & CAICOS ISL.	649*	011
TUVALU	688	00
UGANDA	256	00
UKRAINE	380	8-10
UNITED ARAB EMIRATES	971	00
UNITED KINGDOM	44	00
USA	1	011
US VIRGIN ISL.	1	01
URUGUAY	598	00
UZBEKISTAN	7	8-10
VANUATU	678	00
VATICAN CITY	376	00
VENEZUELA	58	00
VIETNAM	84	00
WAKE ISL.	808	00
WALLIS & FUTUNA ISL.	681	19~
WESTERN SAMOA	685	0
YEMEN	967	00
YUGOSLAVIA	381	99
ZAMBIA	260	00
ZIMBABWE	263	00

Notes:

* USA/Canada: Dial 1 + Code + Phone Number.
Elsewhere: Dial IDD + 1 + Code + Phone Number.

** Dial 95 to dial USA/Canada/Caribbean; country code not needed.

~ Wait for a second tone at this stage.