

NIP

VSAT: Ready for Occupation (RFO) guideline for Customer Premises

Document Number: GL-WR0001

E-Dox System Number: CTO-009294

Compiled by:	Flora Morogong (RLF)
Authorised by:	Senior Manager - Kenny Smees (KD) Business Process Management
Version:	1.0
Domain:	WR
Repository:	E-Dox System
Documentation Template:	TE-CM0001 (CTO-004209) Version 9.0 (Document Management use only)

TABLE OF CONTENTS

1. SCOPE.....	3
2. ACRONYMS	3
3. BUSSINESS RULES.....	3
4. CUSTOMER PREMISES ACCOMODATION AND ENVIRONMENTAL REQUIREMENTS.....	4
4.1 Positioning and space requirements of Outdoor IVSAT Equipment	4
4.2 Wall Loading Strengths and Materials.....	5
4.3 IFL Cable Run.....	5
4.4 Positioning and space requirements of Telkom provided Indoor Equipment	6
4.5 Approvals and Permits	7
5. COMPILED BY.....	8
6. ACCEPTED ON BEHALF OF THE CUSTOMER	8
7. CONTACT INFORMATION.....	8
8. CUSTOMER COMPLIANCE	8
VALIDATION PAGE	9
APPROVAL/AUTHORISATION PAGE	10

1. SCOPE

- a. This document describes the customer premises accommodation and environmental requirements for the execution of the remote Very Small Aperture Terminal (VSAT) installations conducted by Telkom SA.
- b. This document describes and focuses only on the detail activities that must be enforced with all remote installations and which must be adhered to by the customer.
- c. These requirements are guidelines to assist the customer to comply with Telkom's RFO requirements and must comply with basic safety regulations.

2. ACRONYMS

AC	Alternating Current
IDU	Indoor Unit
IFL	Inter Facility Link
NTU	Network Terminating Equipment
ODU	Outdoor Unit
RF	Radio Frequency
IVSAT	Very Small Aperture Terminal

3. BUSSINESS RULES

The Customer will be responsible for ensuring that all Customer premises requiring Telkom equipment installations conform to the requirements as detailed in this document.

No IVSAT are allowed to be installed on heritage sites.

4. CUSTOMER PREMISES ACCOMODATION AND ENVIRONMENTAL REQUIREMENTS

4.1 Positioning and space requirements of Outdoor IVSAT Equipment

- a. The majority of IVSAT systems work off Northerly or Easterly satellites. The antenna, of the IVSAT terminal will need to be positioned on the premises such that it has an unobstructed view of the sky in the direction of the satellite to which it works.
- b. The antenna cannot be placed behind trees, other buildings, towers etc. or under the roof overhangs of dwellings that would obstruct the signal from reaching the antenna clearly. Present and future conditions of the location (For example, are there trees that may grow into the antenna's line of sight or will future building plans block the line of sight) must be taken into consideration.
- c. When roof or extended pole mounts are used, the mast should be no higher than needed to allow the antenna to clear the building structure for line of sight.
- d. Safety of service and installation personnel is also an important requirement. Customer premises with unsafe access will not qualify for field service coverage until action is taken by the Customer to correct the unsafe condition.
- e. The antenna must be placed on the building in such a way as to minimise the cable length between the IDU and ODU.
- f. Antenna alignment and location should allow access to the outdoor RF equipment adjustments.
- g. The distance of the antenna to the IDU is restricted by the length of the IFL (Inter-Facility Link) cable. The maximum cable run length for a standard type IFL cable is 80metres. Distance is dependant of equipment and cable types.
- h. Cables must be laid in suitable ducting or in a conduit piping when buried.
- i. To avoid the possibilities of personal injuries and radiation hazards, the antenna shall be positioned as follows:
 - i. Where people are likely to be present, the antenna shall be placed so that the bottom of the antenna is at least 2 meters from the ground. Antennas shall not be placed at ground level where there is any chance

of people or animals coming into contact with or walking in front of the antenna.

- ii. Antennas shall not be placed in areas where they can interfere with activities at the Customers' premises or where there is a possibility of the antenna being damaged or the signal being interrupted.
- iii. The antenna must also be positioned in an area where Telkom personnel can access the system easily and safely.

4.2 Wall Loading Strengths and Materials

- a. The standard antenna mounting used for the majority of IVSAT installations is a wall mounted bracket.
- b. The wall to which the antenna is to be mounted must be able to sustain a 50kg static weight of an antenna system as well as a wind loading force of 60kg (operational) and a 370kg (survival). Minimum wall loading strength is therefore 420kg.
- c. The wall surface to which the antenna is to be mounted must be flat so that the mounting bracket is able to sit flush and plumb with the wall surface.
- d. Antennae cannot be mounted on walls that are made of soft materials e.g. sun-baked clay bricks, prefabricated asbestos, IBR sheet and timber walls.
- e. Antennae that are mounted to walls made of cinder block and prefabricated double layer walls need to be bolted right through the wall with a backing plate on the inside of the wall for added strength.

4.3 IFL Cable Run

- a. The IFL cable run length should be minimised as much as possible by selecting the shortest, practical route between the IDU and ODU.
- b. The IFL cable shall not be routed alongside an AC power cable. A minimum distance of 500mm must be kept between the IFL cable and an AC power cable if routed parallel to one another.
- c. If the building has a thatch roof, there must be a cable entry point of PVC pipe with a draw wire, provided by the Customer; at least 500mm from the thatch and the IFL must be routed at least 500mm away from the wooden rafters.

This is a regulation to prevent the possibility of the IFL causing electrical fire hazards.

- d. The IFL cable shall be routed in such a way as to avoid causing tripping hazards on the premises.
- e. The cable shall have a route where it is able to be secured to reduce the risk of it being tampered with.

4.4 Positioning and space requirements of Telkom provided Indoor Equipment

- a. All indoor units should be installed in locations where it can be accessed without using special equipment such as a hoist, truck or ladder.
- b. A space on a shelf or in a cabinet where the IDU/NTU can be easily accessed. The IDU/NTU should not be placed on the floor, under tables, under an air conditioner where there is a possibility of dripping/condensation or in desk drawers. There must be at least 100mm of empty space around the IDU/NTU to allow for ventilation cooling of the unit.
- c. The indoor equipment must be located where there is adequate ventilation.
- d. Indoor equipment may not be placed near radiators or other heaters.
- e. Indoor equipment may not be placed in dusty or very humid areas or locations that contain corrosive fumes or vapours.
- f. There should be enough room in the facility to accommodate all equipment and provide adequate working space around each piece of equipment.
- g. There must also be space near the IDU to allow for some IFL cable slack to be stored.
- h. The IFL cable routed to the IDU must not be able to be tampered with in any way, posing a tripping hazard to people or permitting damage to the IFL cable.
- i. Primary power requirements for all indoor equipment are 220 Volts alternating current (VAC), 50Hertz (Hz). This must be provided in the form of a round three-pin domestic type power outlet. Power should be provided as a dedicated power and not shared power (multi plug or an extension lead).
- j. The RF unit obtains direct current power from the indoor unit via the coaxial IFL cable. The Customer is responsible for providing an AC power outlet no

- further than 2 meters from the place where the IDU is to be positioned. This must be provided in the form of a round three-pin domestic type power outlet.
- k. In all cases, the Customer premises power must have appropriate over-current protection and separate power (live), neutral and ground wires. A 15 Ampere circuit breaker must be provided for the above-mentioned equipment.
 - l. At the Indoor equipment installation position an earthing point must be provided.
 - m. The Customer must ensure that the place selected for the IDU is not more than 2m from the Customer's system to which the IDU is to be connected. This is due to the length of the LAN cable supplied with the unit. For the distances greater than 2m (max 100m, Ethernet standard) the client must supply the LAN (crossover) cable.
 - n. Telkom will not be held responsible for any damage to Telkom or Customer equipment, or any injury that may occur, due to the improper use of said facility, or provision of incorrect power or earthing. Any subsequent fault conditions will be considered non contractual.

4.5 Approvals and Permits

- a. It is the responsibility of the Customer to obtain all permits, inspections, and approvals required on the Customer premises for each new installation before the start of construction to avoid delay of installation and subsequent operation of the remote terminal.
- b. Each Customer premises should conform to any applicable standards and regulations in effect at the time of obtaining permits for the site:
 - i. Applicable local building code/uniform building code;
 - ii. Electric Codes;
 - iii. Fire Codes; and iv. Safety Codes.

5. COMPILED BY

Name:			
Title/Position:		_____	_____
Section:		Signature	Date

Note: to be filled in by Telkom SA representative

6. ACCEPTED ON BEHALF OF THE CUSTOMER

Name:			
Title/Position:			
Section:			
Scheduled/Committed		_____	_____
RFO date:		Signature	Date

Note: to be filled in by the customer or representative

7. CONTACT INFORMATION

Note: Please contact and/or email or fax the person below when all the requirements have been met to enable Telkom SA to start with the installation of the service.

Name:			
Title/Position:		_____	_____
Section:		Signature	Date

Note: to be filled in by Telkom SA representative

8. CUSTOMER COMPLIANCE

Name:			
Title/Position:			
Section:		_____	_____
Comments		Signature	Date

Note: to be filled in by Telkom SA representative hereby certifies compliance to the Telkom RFO specification for customer site requirements with comments.

VALIDATION PAGE**DOCUMENT NUMBER: GL-WR0001**

The following person(s) were involved with the validation of this document and may be contacted for more information:

VALIDATED BY:

Serial no: 3036

Name	Section	Telephone Number	Electronic Acceptance
Tom Davis	Telkom Business Solution	012 680 6772	Approved
Terence Vogt	Telkom Business Solution	012 680 6768	Approved
Stan Williams	VSAT Engineering		

APPROVAL/AUTHORISATION PAGE
DOCUMENT NUMBER: GL-WR0001

APPROVED BY:

Serial no:

Name:	Stan Williams		
Title/Position:	Functional Manager	_____	_____
Section:	NIP VSAT Engineering	Signature	Date

Name:	Terence Vogt	Electronic	2010/04/21
Title/Position:	Senior Manager	_____	_____
Section:	Telkom Business Solutions	Signature	Date

Name:	Tom Davis	Electronic	2010/03/30
Title/Position:	Senior Manager	_____	_____
Section:	Telkom Business Solutions	Signature	Date

AUTHORISED BY:

Name:	Shawn Botes	Signed	2010-04-29
Title/Position:	Senior Manager	_____	_____
Section:	NIP - Netbuild	Signature	Date

Name:	Gerrit Harmse Manager	Signed	2010-05-04
Title/Position:	ITS - BPIM	_____	_____
Section:		Signature	Date

Name:	Kenny Smee	Signed	2010-05-04
Title/Position:	Senior Manager	_____	_____
Section:	ITS - BPIM	Signature	Date