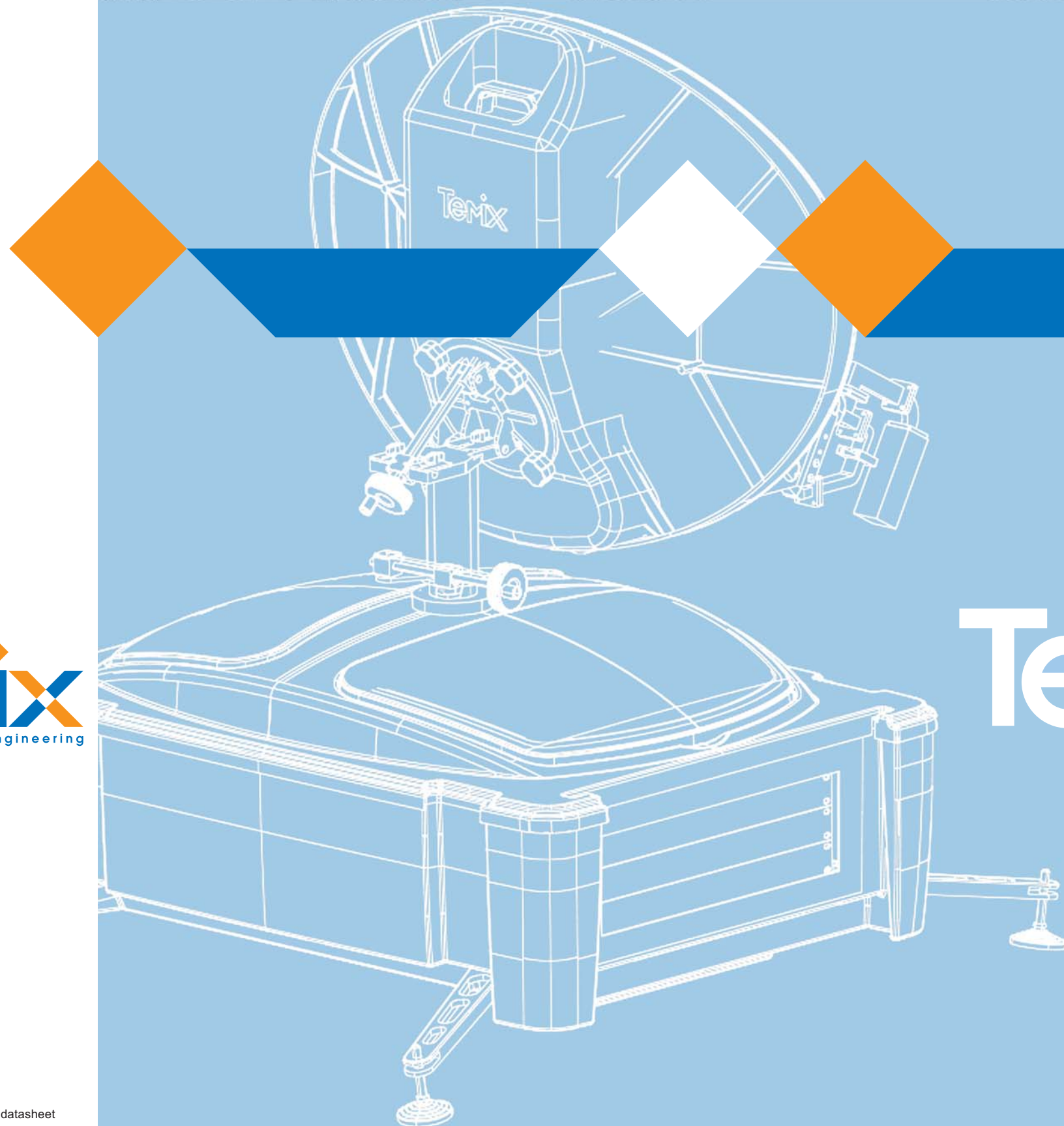


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EASYFLYSAT

Compact Portable Satellite Terminal



Temix
communications engineering

Temix

All the information included in this datasheet
may be changed without advise.

rev_12/08

communications engineering



EASYFLYSAT SYSTEM

EASY ONE PERSON OPERATION ...



- ◆ Very compact quickly on-air satellite package (Deployment and Setup less than 10 minutes)
- ◆ Easy one person operation with exceptional technical performances
- ◆ Supports IP and DVB-S platforms
- ◆ Highly integrated with EasyLINK wireless communication systems
- ◆ Data rates up to 10MBit/s duplex (Satellite platform depending)
- ◆ Completely sealed and protected from rain, sand and dust



EasyFLYSAT includes all the features of a fly-away system in a very compact quickly-on-the-air satellite package and combines easy one-person operation with exceptional technical performances allowing live broadband transmissions virtually from anywhere in the world.

It is the right choice when it is necessary to cost effectively transmit live reports or do store and forward.

It is the perfect system as a rapid reaction kit for an ENG Department, for overseas deployment to give remote sites temporary Broadband Access, for Disaster Recovery or to give local offices low cost, highly efficient communication capabilities.

Ideal for DSNG-IP Broadcasting, Telecommunications Recovery IP-Networks EasyFLYSAT offers a fast deployment, high data rate capacity of up to 10MBit/s (with 120cm antenna), compact, lightweight and easy to use field unit, full duplex two-way communication with state of the art satellite technology.

EasyFLYSAT is designed for easy-one-person operation; a handle in the top side and two wheels in the under side allows easy handling by one person, like a trolley bag. EasyFLYSAT is equipped with a magnetic compass and an inclinometer. Depending on the chosen set of equipment, EasyFLYSAT can meet different needs from IP transmission and reception to DVB-S application (MPEG2) and DVB-S2 (MPEG2-MPEG4) Broadcasting.

The system allows up to 10MBit/s duplex transmission (satellite performance depending) of IP service data, voice and video. It is the ultimate state of the art solution for Broadcasters, Service Providers, Military and Government Agencies, FreeLands or Rescue Organizations without particular skills, needing a fast and easily transportable satellite terminal for broadband communication.

EasyFLYSAT is completely sealed and protected from rain, sand and dust.

All the devices are fully enclosed in a tough carbon fiber carrying case and packed for easy transportation. EasyFLYSAT can operate from the hot and dusty desert, the humid heat of equatorial Africa to freezing arctic conditions.

To better meet the customer's need, Temix has designed many versions of EasyFLYSAT. All versions - unless otherwise specified - are available with 75 cm antenna (Ku band) or with 120 cm segmented antenna (C or Ku band), to obtain respectively capacity up to 4MBit/s (51.4 dBW EIRP) or up to 10MBit/s (64 dBW EIRP) in Ku band (satellite platform dependent). Other available versions are with 98 cm or 140 cm segmented carbon fiber dish antenna. In all cases after use the antenna is retained in the top case.



EasyFLYSAT - IP

The Terminal is equipped with two RJ45 10/100 base-T ports and works as an ordinary LAN for email, FTP, VoIP and data streams. It is ideal for providing easily transportable and very short time set-up for Temporary Internet Access in remote sites (i.e. for Educational purposes), VoIP applications (an analogue interface is available as an option), Data Streaming, Temporary Surveillance of remote sites via IP Cameras etc.

It is available with 75 cm antenna or 98 cm segmented antenna (Ku band), or with 120 cm segmented antenna (Ku or C band).

Applications:

Datacom IP networks
Emergency and disaster recovery
Webcast corporate
Broadcast TV IP-DSNG



EasyFLYSAT - MPEG4

The MPEG4 Terminal integrates all the features giving an MPEG4 streaming up to 6MBit/s (satellite performance depending) ideal for FAST Contribution of Live Contents from remote sites such as Breaking News, sports and corporate events, reliable, objective and fast news or interviews.

The basic model is equipped with one audio and video interface in a standard version, a return audio channel can be provided as an optional extra (so it can be used as an Intercom return channel from studio) and provides an option of a H264 resolution, while the more advanced model can provide a video return channel (i.e. for local video monitors).

It is available with 75 cm antenna or 98 cm segmented antenna (Ku band), or with 120 cm segmented antenna (Ku or C band).

Applications:

Broadcast TV IP-DSNG
Webcast corporate

EasyFLYSAT - DVB

The DVB-S or DVB-S2 Terminal integrates all the features to support, in a single easily transportable package, a digital video MPEG2 broadcasting up to 9MBit/s (satellite performance depending). The Terminal is equipped with two audio/video interfaces as standard. Just the time to connect the audio/video cables and the up-link is on-air. It is ideal for standard quality MPEG2 contributions. It employs the 120 or 140 cm segmented antenna (Ku or C band).

Applications:

Broadcast TV IP-DVB.DSNG

EasyFLYSAT-SP

The Self Powered is the revolutionary Portable Satellite Terminal entirely autonomous, suited for very extreme applications where energy is not available. The SP terminal includes all the features of EasyFLYSAT family with the addition of a Lithium Polymer Battery Pack, that allows a continuous use up to thirty hours.

Furhermore, using the included foldable solar panels, the battery recharge is guaranteed, for continuous operation 7/24. All power parts are lodged in EasyFLYSAT package as in the other EasyFLYSAT versions. It is the perfect system as rapid reaction kit for a ENG Department, for overseas deployment, to give temporary highly efficient communication capabilities to remote sites (up to 2MBit/s capacity, satellite platform dependent), for Disaster Recovery. It is available with 75 cm antenna only (Ku band), and with MPEG4 over IP as an option.

Applications:

Datacom IP networks
Emergency and disaster recovery
Webcast corporate
Broadcast TV IP-DSNG





EasyFLYSAT-WiMAX

The WiMAX terminal integrates the most advanced terrestrial wireless technology into the EasyFLYSAT unit, to interface it with Temix's EasyLINK units, in 3.5 GHz licensed band or in 5 GHz unlicensed band.

In this way the EasyFLYSAT can transmit and/or receive any data to and/or from many EasyLINK situated in remote locations (up to 50 Km, depending on channel conditions and antennas gain). This is the ideal solution when the need is to transmit via satellite data received from many remote locations, and viceversa. Typical application is for building a telecommunication network infrastructure in case of Disaster Recovery.

It is available with 75 cm antenna or 98 cm segmented antenna (Ku band), or with 120 cm segmented antenna (Ku or C band), and with MPEG4 or MPEG2 over IP as an option.

Applications:

- Emergency and disaster recovery
- Datacom IP networks
- Broadcast TV IP-DSNG
- Webcast corporate



EasyFLYSAT - BACKHAUL (GSM-TETRA)

EasyFLYSAT - Backhaul provides a very flexible solution for connecting a Picocell BTS into an existing remote hub and then routing signals over a satellite connection into a ground station to connectivity for GSM and TETRA.

From the EasyFLYSAT with embedded Picocell, the GSM or TETRA traffic is moved into the core of a mobile operator's network, or in the private hub of Tetra network.

The architecture uses the IP link on the satellite which is cheaper than a circuit switched connection.

The key application areas are:

- Rural areas - where the aim is to provide coverage to remote locations like villages, rural commercial settlements (such as rubber plantations, mining camps, refugee camps and the like). The requirement here is for an outdoor picocell with large coverage.
- Oil and gas - where onshore and offshore exploration and production rigs (the former are mobile) require

connectivity to support the private communications needs of workers as well as for safety reasons.

- Disaster Recovery - where the goal is to deploy a GSM coverage in Disinterred areas in order to recovery also on temporary basis (in less than 1h from the arrival on field) the telecommunication network

- Temporary GSM Network improvement - Providing good service means always having sufficient capacity available. But avoiding 'network busy' errors during conventions, sport events, large shows, (etc...) is becoming more difficult as usage levels increase, driven by competitive voice tariffs and attractive new data services.

Applications:

- GSM-TETRA backhauling mobile RSB
- Emergency and disaster recovery
- Datacom IP network



RF Specifications

Ku Band

Antenna Type - Offset one piece elliptical reflector

Effective Aperture	75cm equivalent (62cm x 89cm)
Polarization	Linear
Sidelobe Envelope	29-25 log(θ) dBi for azimuth
Antenna Cross-Polarization	Better than 30dB on axis
Rx Frequency	10.95 - 12.75 GHz in three LNB bands
Tx Frequency	13.75 - 14.5 GHz
EIRP Capability	Up to 54dBW (Eutelsat compliant 51.4dBW)
Azimuth Range	$\pm 30^\circ$
Elevation Range	5° to 90°
Polarization	$\pm 90^\circ$
L Band Interface	Rx and Tx 950 to 1750 MHz
Deployment Set-up	Less than 10 minutes

Antenna Type - Ring focus nine pieces reflector

Effective Aperture	130cm
Polarization	Linear
Sidelobe Envelope	29-25 log(θ) dBi for azimuth
Antenna Cross-Polarization	Better than 35dB on axis
Rx Frequency	10.95 - 12.75 GHz in three LNB bands
Tx Frequency	13.75 - 14.5 GHz
EIRP Capability	Up to 63,7 dBW
Azimuth Range	$\pm 20^\circ$
Elevation Range	5° to 85°
Polarization	$\pm 90^\circ$
L Band Interface	Rx and Tx 950 to 1750 MHz
Deployment Set-up	Less than 20 minutes

C Band

Antenna Type - Ring focus nine pieces reflector

Effective Aperture	140cm
Polarization	Linear or Circular
Sidelobe Envelope	29-25 log(θ) dBi for azimuth
Rx Frequency	3.6 - 4.2 GHz
Tx Frequency	5.850-6.425 GHz
EIRP Capability	Up to 57.5dBW
Azimuth Range	$\pm 20^\circ$
Elevation Range	5° to 85°
Polarization	$\pm 90^\circ$
L Band Interface	Rx and Tx 950 to 1750 MHz
Deployment Set-up	Less than 20 minutes

BASEBAND MODEM

Transmit Mode	SCPC, MCPC or TDMA
Modulation and Demodulation	Modem dependent (All commercial modem are supported)
Coding	All coding rates supported by modem

INTERFACES

Data interfaces	2 x 10/100 BaseT
Wireless LAN	802.11b/g
Video	Analog PAL or NTSC, or SDI
Audio	Analog Balanced, or Digital AES/EBU
Wireless Broad Band	EasyLINK WiMAX 5.4GHz Unlicensed or 3.5 Licensed

ELECTRICAL

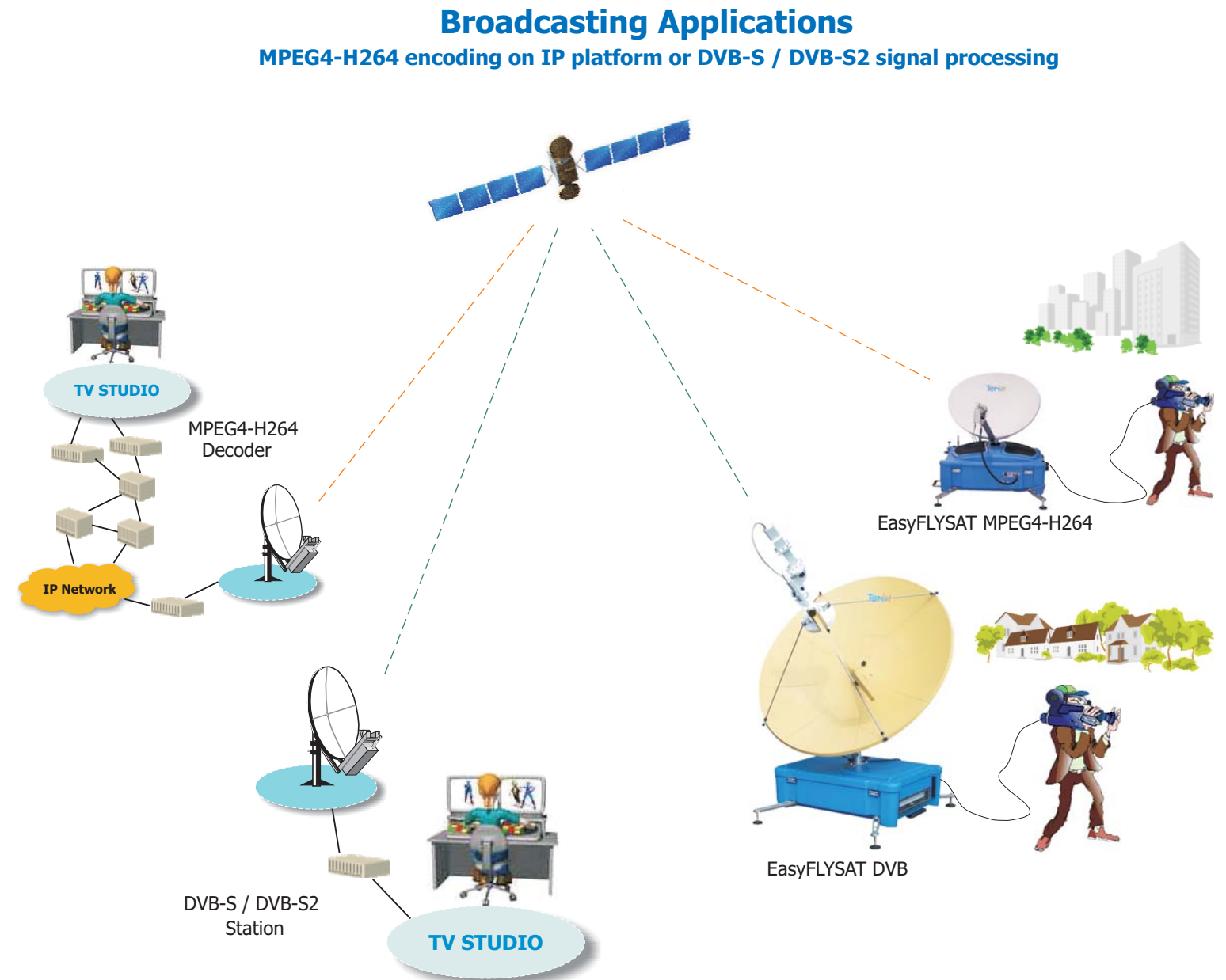
Main Power	90 to 230 Vac 300 to 1300W configuration dependent Option 18 to 48Vcc 25A (EasyFLYSAT_SP)
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MECHANICAL

Stowed Size	99x75x60 cm for 75 cm dish antenna 99x75x74 cm for 98/120/140 cm dish antenna
Weight	Approximately 49 Kg (Final weight depends by options and configuration required).

ENVIRONMENTAL

Temperature	Operational -20° to 50°C, Storage -40° to 70°C
Operational Humidity	95% non-condensing
Sealing Class	IP65
CE Approvals	EN55022 Class B (Emissions), EN50082-1 Part 1 (Immunity) EN60950 (Safety)



SOME REFERENCES

MONTE ROSA
Rifugio "Margherita" Alagna Valsesia Italy - 21-28 July 2005

Temix, a leading company in the development of Mobile Wireless and Satcom solutions in the role of Technological Partner, with INTEL Corp. provided the communications technology platform for the scientific expedition on Monte Rosa organized by Prof. Parati of the Bicocca University, Milan, Italian Auxologic Institute and FOCUS magazine.

The expedition left on July 22nd from Alagna Valsesia for the "Capanna Margherita" alpine hut at 4,559 mt altitude where they stayed until July 28th. During the journey on foot and their stay in the alpine hut all the members of the expedition, technicians and cavies were monitored by special sensors for the acquisition of biological parameters. Besides this, the technicians and

scientists communicated with the scientific community using a new generation satellite broad band access able to manage the most advanced multimedia services available today in terrestrial networks.

more information:
www.intel.com/cd/corporate/pressroom/EMEA/ita/235039.htm
www.focus.it/Salute/speciale/Scienza_sul_Monte_Rosa/_7.aspx



EUROSOT 2005
Acireale Catania Italy - 14-16 October 2005

Temix, confirming its position of Leading Technological Partner in its commitment to missions in extreme environmental conditions, was involved in the EUROSOT 2005 Civil Protection Manoeuvre providing the technological support concerning the Communication Platform between the Working Area located in Acireale and the headquarters of the Civil Protection "Search and Rescue" located in "Sant'Agata Li Battiati" and Rome. For this purpose the extreme reliability of Temix's Portable Satellite Terminal EasyFLYSAT guaranteed connection with the headquarters in Sant'Agata Li Battiati and Rome where people could direct the camera to follow all the phases of the Search and Rescue activities managing in real time the co-ordination of the aid.

ESA - European Space Agency
Rotterdam
The Netherlands - 3 October 2007

Temix has shown EasyFLYSAT capability during the European exercitations organized, in Rotterdam, in conjunction with the Minister of the Interior, Rotterdam Port Authority, Civil Defence and Fire & Rescue and ESA European Space Agency. ESA has in fact been working for years defining a civil defence first aid telecommunications platform jointly with several European companies including TEMIX. Under this viewpoint, ESA is involved into promote the technologies that can make this disaster reaction system reliable, fast deployable and efficient. The use of two EasyFLYSAT terminals taken to the site of the first rescue units was decisive for co-ordination between the Ministry of the Interior and the Port

Authority crisis operations rooms. In fact, through video connections activated via satellite using EasyFLYSAT terminals the operations rooms could monitor the progress of the crisis in real time, co-ordinating and organising the rescue services efficiently. All of this thanks also to the continuous connection with the ESA, the European Space Agency, telecommunications platform of which made available the whole emergency telecommunications infrastructure. The advanced DVB-RCS Platform delivered from Alcatel Alenia Space to ESA created the conditions to appreciate the great potential of the EasyFLYSAT System. In fact the IP nature of the Temix platform, made it possible to integrate in a very short time the terminal with the Alcatel Alenia Space DVB-RCS HUB. Specially when it is integrated in an

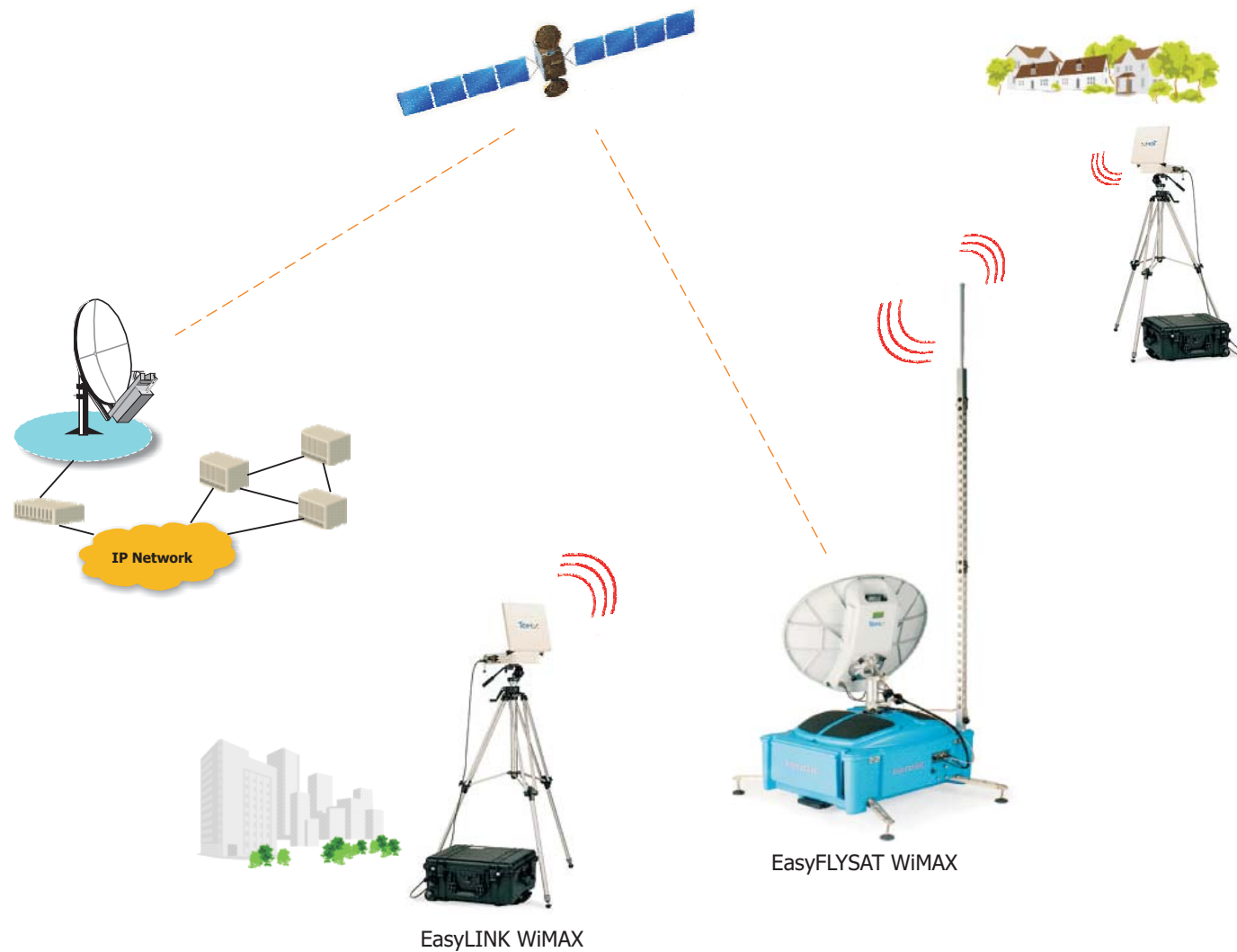
EasyLINK network, EasyFLYSAT can connect wirelessly many remote sites, with full duplex communication also in NLOS conditions, and link them via satellite to any part of the world. The success of the project has pushed ESA to involve Temix in future development of EasyFLYSAT technology, in order to meet future requirements of specific applications.



EASYFLYSAT

Disaster Recovery "First Aid Team Support"

EasyFLYSAT with wireless WiMAX extention



Disaster Recovery "First Aid Team Support"

EasyFLYSAT with TETRA radio

