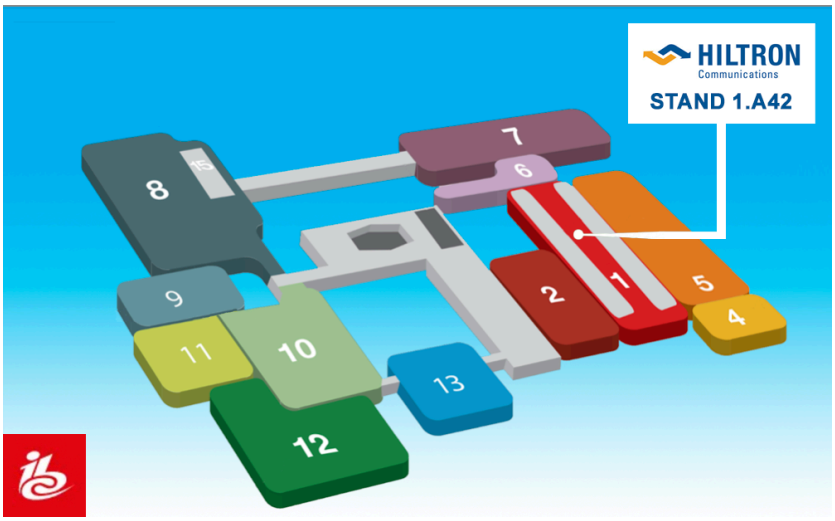
IBC 2024 INVITATION
See Hiltron and ESA Microwave in Hall 1.A42



HILTRON extends a warm welcome to existing and potential customers attending the September 13th-16th 2024 International Broadcasting Convention at the RAI Amsterdam.

We will be promoting the latest additions to our wide range of products and services on stand **A42**, approximately mid-way along **Hall 1**.

Hiltron representatives attending IBC will include Jochen Ermel, Antonio Monteverde, Matthias Hayer and Thomas Wurst.

We look forward to seeing you there.

NEW DEVELOPMENT Latest generation Hiltron HMAM-XY motorised antenna mount

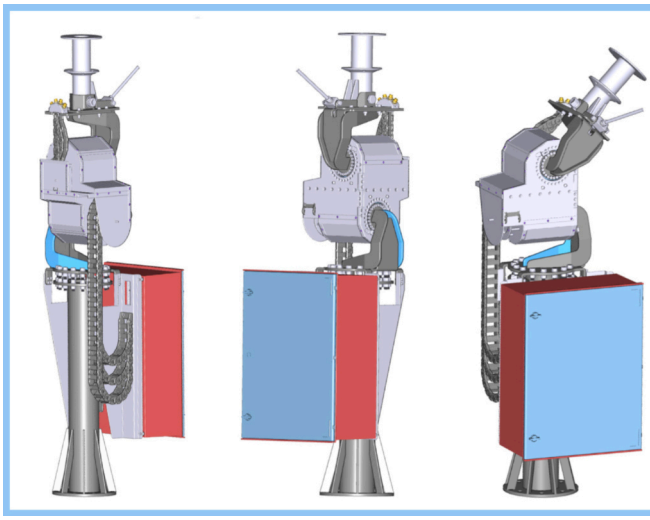
RECENT ADDITIONS to the wide range of Hiltron-developed systems include the HMAM-XY motorised antenna mount, a latest-generation development capable of performing high precision tracking of LEO and MEO satellites, smallsat constellations and flying objects such as drones. It offers unsurpassed tracking speed, acceleration and accuracy with applications in the broadcast, security and wider telecommunications market.

Making its first exhibition appearance on stand 1.A42 at IBC 2024, the HMAM-XY provides very high pointing and tracking accuracy with low backlash, and full hemispheric coverage with no zenith keyhole. High-accuracy absolute-reference encoders are incorporated.A universal adapter allows easy attachment of planar antennas or prime focus reflectors with up to 2.5 metres diameter.

Operation is via Hiltron's HACU antenna control unit which includes TLE/NORAD tracking capabilities. Steptrack is available as an option. Control and monitoring can be performed through an Ethernet link with a web interface. The HACU can be mounted on the HMAM-XY support column with local control possible via a handheld unit.

Tracking velocity of the HMAM-XY is up to 10 degrees per second with 6 degrees per second squared maximum acceleration and within 0.05% accuracy. Elevation range is +5 to +175 degrees. Lateral rotation can be performed through a continuous 360 degrees. L, S, C, X, Ku and Ka bands with circular or linear polarisation are supported. Multiband support is available as an option.

The HMAM-XY can operate in temperatures of -30 to +50 degrees Celsius (-40° to +60°C storage) and in wind speeds of up to 90 kilometres per hour (up to 200 km/h survival in security position, dependent on reflector type) and up to 100% relative humidity. Power requirement is 400 volts AC, 3-phase.



Hiltron HMAM-XY high-speed motorised satellite communication and drone-tracking antenna mount

BUILDING ON EXPERIENCE

Hiltron sees growing demand for ground antenna refurbishment

DEMAND FOR Hiltron's refurbishment capabilities is increasing across the entire satellite communications sector, from high accuracy teleport antenna performance evaluation to latest-generation motorised antenna mounts and control systems.

Hiltron Communications has 45 years of experience in satellite systems design, preconstruction, onsite installation and testing. We also have distribution agreements with many of the world's leading manufacturers of satcom equipment plus the detailed knowledge required to combine third-party equipment into complete solutions that are reliable and easy to operate.

One of the main options for teleport managers is to upgrade existing antennas to higher frequencies, typically from C-band to Ku-band or Ka-band. This saves the need to buy new equipment and allows services in the lower bands to be maintained. Hiltron is fortunate in having a highly accomplished technical team with two decades or more of experience in satcom systems engineering combined with proven software authoring skill. When refurbishing third-party systems, we are often able to achieve better-than-new performance by replacing legacy control devices with Hiltron-developed products that allow satcom systems to be controlled with maximum safety, efficiency and versatility. Examples are our HACU antenna control unit, the HSACU4 compact variant for flyaway antennas, HMCS monitoring and control system, HDCU and compact HDCU2 de-icing control units,

Perhaps the best known of all Hiltron product developments is the HMAM motorised antenna mount. A recent addition to this range, HMAM LEO is a complete system combining the strength, precision, smoothness of operation and internal computing resources necessary to monitor low Earth orbit satellites. Capable of accommodating parabolic antennas of up to 3 metres diameter, HMAM LEO can lock quickly and securely onto the selected LEO satellite.

A core element of Hiltron's satcom system refurbishment service is the ability to perform high-accuracy 3D laser scanning and evaluation of teleport antennas. Based on technology developed by ESA Microwave GmbH, a Hiltron subsidiary partner, this resource is far more accurate than the commonly used photogrammetry technique and can be conducted while the antenna is actually in operation. Photogrammetry requires a large number of adhesive targets, typically several hundred, to be applied by hand on to the reflector. The cost is quite high and the measurement resolution relatively low. The Hiltron/ESA system allows a million surface reference points per second to be captured with a geometric accuracy of less than 1 millimetre.

3D laser scanning measurement can be performed quickly and safely by a single technician using easily transported equipment which in many instances can be operated on a single tripod located at ground level. The resultant information is integrated into approximately 60 million points and used to create a computer-aided design model. Measured specifications and related performance parameters are delivered to the antenna operator or owner together with recommendations clarifying whether the antenna would benefit from upgrading, conversion or fitting with a multiband feed system.

NEW FIELD-UPGRADABLE MOTORISATION KIT
For existing fixed installations of CPI 2385 3.8 metre Rx/Tx antennas

HILTRON Communications has introduced a field-upgradable motorisation kit specifically designed for existing fixed installations of CPI 2385 Series 3.8 metre Rx/Tx antennas in current deployment for tracking applications, or for new installations requiring tracking functionality.

A new addition to our HMAM product family, the motorisation kit enables significant cost savings compared to new installations. It offers a wide range of tracking capabilities including manual positioning to known satellites, automatic positioning and active step tracking. Norad TLE, inclined orbit tracking and Intelsat 11 tracking are also supported.

The first three systems recently completed successful factory acceptance tests and have been installed at various locations around the world. Hiltron has the design and development capability to provide motorisation kits for any type of reflector on customer request.

HMAM comes complete with professional-grade drives for azimuth and elevation plus a high-accuracy polarisation drive.

SUCCESSFUL GOVSATCOM 2024
European Convention Center, Luxembourg

HILTRON experienced a successful GovSatCom 2024, held at the European Convention Center in Luxembourg on February 22nd, the exhibition and its parallel conference attracted visitors from a broad range of telecommunications-related sectors. Our recently announced HSACU4 compact antenna control unit made its first GovSatCom appearance We also exhibited two products from our ESA Microwave division: an ESA C-/Ku-band feed system with circular/linear polarisation capability plus the ESA FI-02-C-RT-05 filter. Designed for use with flyaway antennas, the HSACU4 is a space-efficient version of the HACU which is used for earth station antennas at hundreds of stations worldwide. It is normally supplied in a 300 x 300 x 155 mm IP65 weatherproof housing.

Additionally promoted at GovSatCom 2024 was Hiltron's Drive-Away transportable satellite link, described overleaf.

COMBINING HIGH PRECISION AND MOBILITY
The Drive-Away transportable satellite link

HILTRON'S NEW Drive-Away transportable satellite link is designed for use in applications requiring very high precision uplink, downlink or bi-directional connectivity. It comprises a 3.7 metre diameter segmented parabolic reflector on a specially developed motorised steering mount. The entire unit, including control electronics plus antenna heating and de-icing, is housed on a 2.4 metre wide rigid platform. An onboard crane allows the platform to be loaded easily onto a standard container truck. Other ground fixings are possible on request.

All related electronics are housed in a weatherproof steel cabinet.

System supervision is via the Hiltron HSACU4 compact antenna control unit which is based on the same hardware and software platform as the HACU antenna control unit used for earth station antennas at hundreds of stations worldwide.

The HSACU4 can be configured with modules such as a polarisation driver, an integrated beacon receiver or power supply modules for the LNBs. Auto-pointing and tracking data are sourced from a beacon receiver.

An optional HP_HCS4-NET module for the HSACU4 control unit provides LAN/IP connectivity and full remote access via a browser-based user interface. Also included are a sensor box with a fluxgate compass, a GPS receiver and an inclinometer for adjustment of elevation and polarisation. Step-track and TLE for NORAD data are supported and can be automatically activated after fine pointing of the antenna. Prediction tracking is included to follow inclined-orbit satellites.

The Hiltron Drive-Away is built to withstand standard atmospheric pollutants and to operate from zero to 95 per cent humidity over a temperature range of 35°C (optionally 55°C) down to -25°C. It can also be specified to withstand pollutants such as salt encountered in coastal and industrial areas.