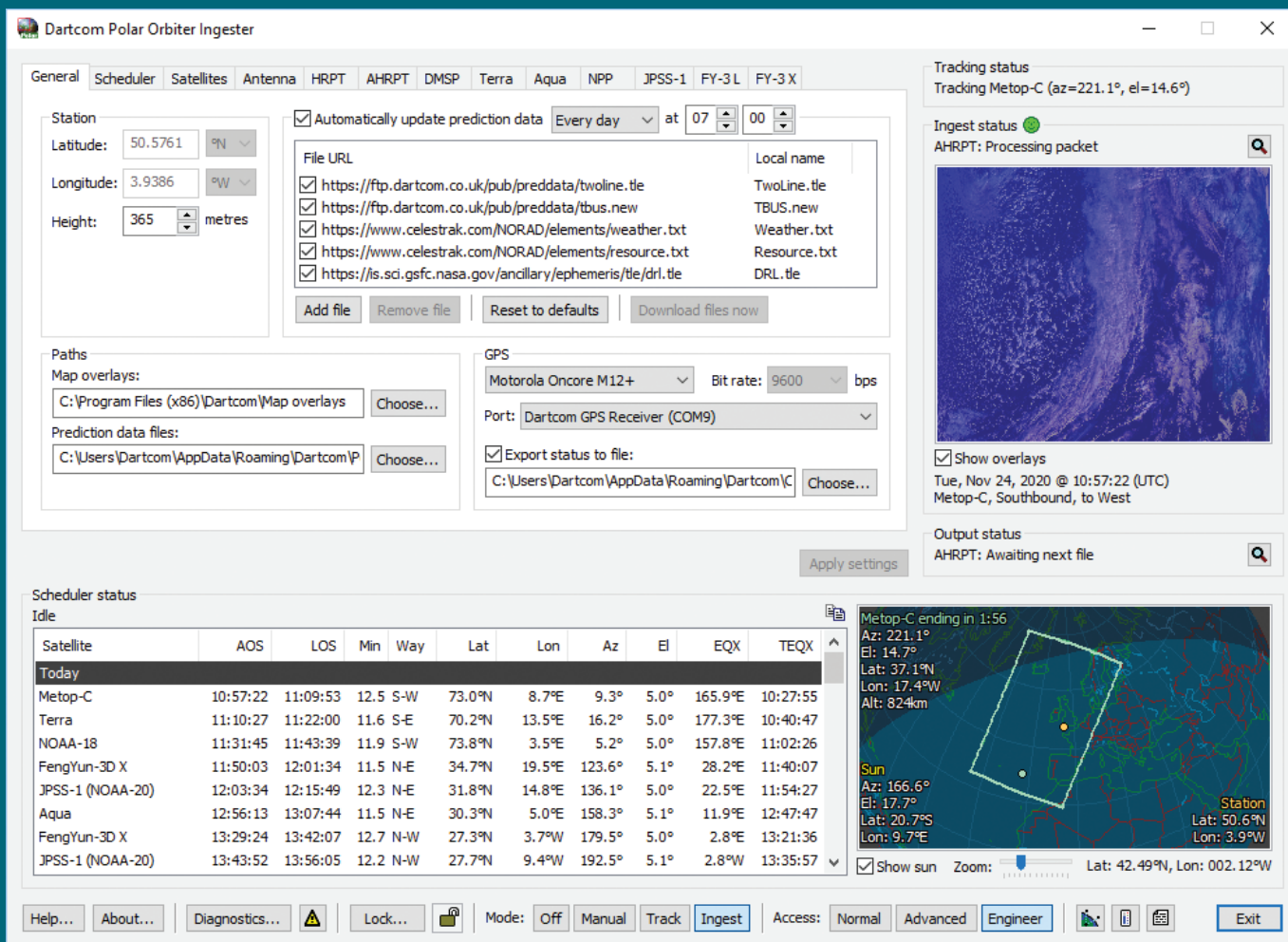


Polar Orbiter Ingestor

Ingest software for HRPT, AHRPT, DMSP and X-Band EOS data from NOAA, Metop, Terra, Aqua, Suomi NPP, JPSS, FengYun-3 (FY-3) and DMSP-5D satellites



Scheduler status
Idle

Satellite	AOS	LOS	Min	Way	Lat	Lon	Az	El	EQX	TEQX
Today										
Metop-C	10:57:22	11:09:53	12.5	S-W	73.0°N	8.7°E	9.3°	5.0°	165.9°E	10:27:55
Terra	11:10:27	11:22:00	11.6	S-E	70.2°N	13.5°E	16.2°	5.0°	177.3°E	10:40:47
NOAA-18	11:31:45	11:43:39	11.9	S-W	73.8°N	3.5°E	5.2°	5.0°	157.8°E	11:02:26
FengYun-3D X	11:50:03	12:01:34	11.5	N-E	34.7°N	19.5°E	123.6°	5.1°	28.2°E	11:40:07
JPSS-1 (NOAA-20)	12:03:34	12:15:49	12.3	N-E	31.8°N	14.8°E	136.1°	5.0°	22.5°E	11:54:27
Aqua	12:56:13	13:07:44	11.5	N-E	30.3°N	5.0°E	158.3°	5.1°	11.9°E	12:47:47
FengYun-3D X	13:29:24	13:42:07	12.7	N-W	27.3°N	3.7°W	179.5°	5.0°	2.8°E	13:21:36
JPSS-1 (NOAA-20)	13:43:52	13:56:05	12.2	N-W	27.7°N	9.4°W	192.5°	5.1°	2.8°W	13:35:57

Tracking status
Tracking Metop-C (az=221.1°, el=14.6°)

Ingest status ●
AHRPT: Processing packet

Output status
AHRPT: Awaiting next file

Satellite Data (from map):
Metop-C ending in 1:56
Az: 221.1°
El: 14.7°
Lat: 37.1°N
Lon: 17.4°W
Alt: 824km

Sun Data:
Az: 166.6°
El: 17.7°
Lat: 20.7°S
Lon: 9.7°E

Station Data:
Lat: 50.6°N
Lon: 3.9°W

The Dartcom Polar Orbiter Ingestor software tracks NOAA, Metop, DMSP, Terra, Aqua, Suomi NPP, JPSS and FengYun-3 (FY-3) satellites and ingests HRPT, AHRPT, DMSP and X-Band EOS data automatically.

Ingested data can be output to a range of formats and processing software. It can then be displayed and processed further using the Dartcom iDAP/MacroPro software.

Features of the Polar Orbiter Ingestor software include:

- Multi-threaded architecture allowing ingest of a pass while the previous one is being processed.
- Automatic satellite tracking, ingesting, archiving and output.
- Calibration and navigation of HRPT, AHRPT and DMSP data.
- Output of Terra, Aqua, Suomi NPP and JPSS data to NASA RT-TPS and IPOPP processing software, and FY-3 data to CMA FY3L0pp processing software.
- Automatic GPS position and time synchronisation.
- Automatic downloading and updating of satellite prediction data.
- Temperature monitoring with automatic tracking lockout if limits exceeded (requires optional temperature sensor unit).
- Full diagnostics facilities with on-screen and email alarms.
- LRD support will be added if any future JPSS satellites transmit it.

Satellite tracking

- Automatic calculation of pass schedule covering up to 15 days, with parameters including satellite selections, time windows, latitude limits and data type prioritisation.
- Manual schedule editing, with changes saved automatically.
- Automatic satellite tracking, with dedicated thread for minimum latency and maximum update frequency.
- Configurable antenna park mode to allow ingest of LRIT/HRIT data (requires optional Dartcom XRIT Ingestor software).
- PC time automatically synchronised within 20ms of GPS time.
- Station position automatically synchronised with GPS, with automatic schedule recalculation if a significant change occurs.
- Automatic downloading and updating of satellite prediction data.

Data ingest

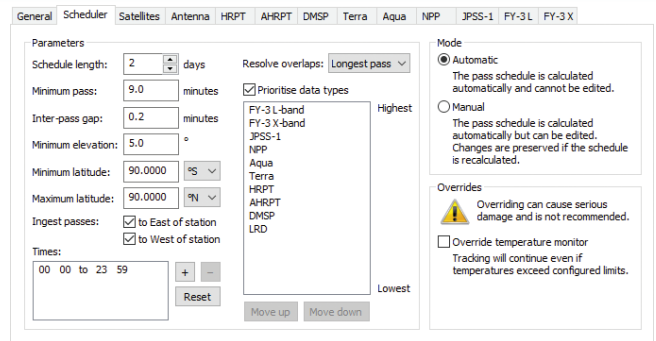
- HRPT, CCSDS, DMSP and X-Band EOS ingest engines supporting HRPT, AHRPT, DMSP, Terra, Aqua, Suomi NPP, JPSS and FY-3.
- Automatic receiver control and data ingest, with multi-threaded architecture for minimum latency and maximum throughput.
- Calibration and navigation of HRPT, AHRPT and DMSP data.
- Live preview displayed during HRPT, AHRPT and DMSP ingest, with automatic enhancement and creation of map overlays.

Archiving and output

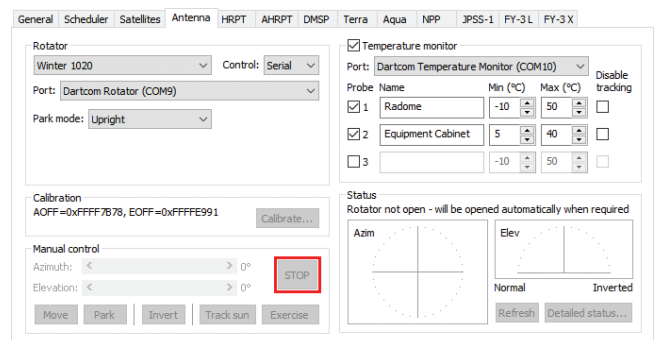
- Automatic archiving of ingested data for up to 366 days with the option to group passes into folders by date.
- Output of HRPT, AHRPT and DMSP image data to Dartcom iDAP/MacroPro software for display and processing.
- Output of HRPT data to NOAA level 1B and other raw formats, together with ancillary data such as TIP and DCS.
- Output of AHRPT data to EPS level 0 format.
- Reprojected output of HRPT, AHRPT and DMSP image data to PCI Geomatica, ERDAS IMAGINE, ENVI/IDL and GeoTIF.
- Output of Terra, Aqua, Suomi NPP and JPSS data to NASA RT-STPS and IPOPP processing software, and FY-3 data to CMA FY3L0pp processing software.

Diagnostics and maintenance

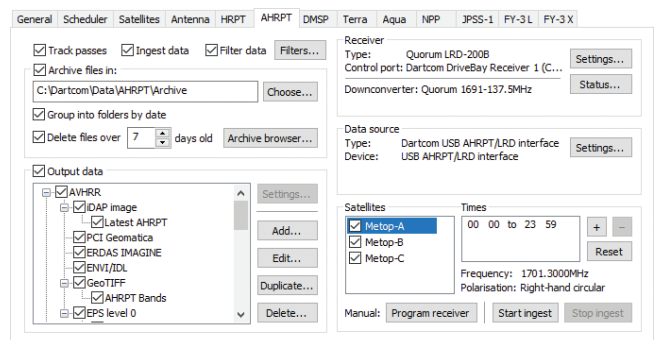
- Access control and password locking to prevent tampering.
- Event logging with storage monitoring and on-screen and email alarms for serious events.
- Temperature monitoring with automatic tracking lockout if limits exceeded (requires optional temperature sensor unit).
- Manual rotator control with detailed diagnostics displays, sun track mode, exercise mode and calibration facilities.



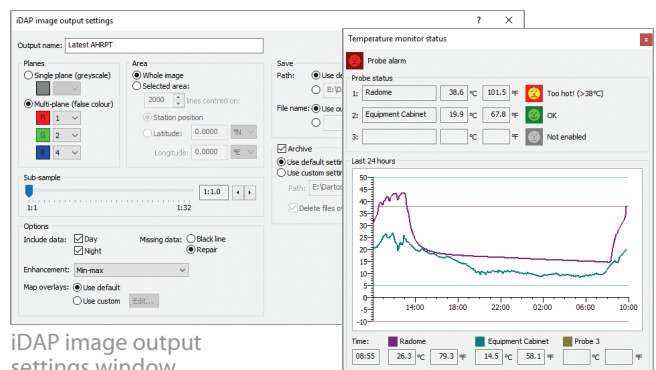
Scheduler tab allowing configuration of pass schedule



Antenna tab allowing configuration and control of antenna



Ingestor tab allowing configuration of ingesting, archiving, outputs, receiver settings and ingest time windows



iDAP image output settings window

Temperature monitor window

