

# RS-100

## Primary Radar Recording and Replay



### Features:

- Records radar video from ASTERIX CAT-240 or standard radar signal sources
- Records ASTERIX CAT-48 tracks
- Multiple input channels
- Recording to local hard drive
- Local GUI or network control of recording process
- Visual display of radar video being recorded
- Optional radar compression
- AIS and ADS-B recording and replay
- NMEA 0183 GPS, Navigation Data (serial or network) record and replay
- Record and replay of other network messages (without interpretation)
- Record and replay of H.264 video
- Replays radar video in ASTERIX CAT-240 or standard radar signals using HPx-300
- Multiple output channels
- Optional simulation of radar video, including multi-radar, multi-target scenarios
- Available as integrated system or OEM components

Cambridge Pixel's RS-100 product family provides a ready-to-run desktop unit for record and replay of primary radar video with associated tracks and related AIS, ADS-B and NMEA navigation data. The system is offered in a range of variants to provide an integrated all-in-one desktop unit for developers working with primary radar. Alternatively, it provides separate radar record and replay units, to permit capture of data from one location and replay in another.

For recording, the unit can receive radar video as either standard ASTERIX CAT-240 network format or else from radar signals (video, trigger, azimuth). Up to 3 channels can be recorded along with AIS and ADS-B reports, and NMEA 0183 navigation data for ship-board applications, in addition to ASTERIX CAT-48 tracks and network messages that can be captured and subsequently replayed without interpretation. RS-100 can also capture and replay H.264-encoded video.

On replay, the unit can output network video and/or radar signals with up to 3 channels of video replayed synchronised with the AIS, ADS-B and NMEA data streams.

The unit provides a local display of the radar video, showing the user what is currently being recorded/replayed. Control is provided by a convenient graphical interface or via a C++/.NET interface, for remote network operation.

For system integrators or OEM developers, the software and radar input/output cards are available as components for integration into a custom system. ■

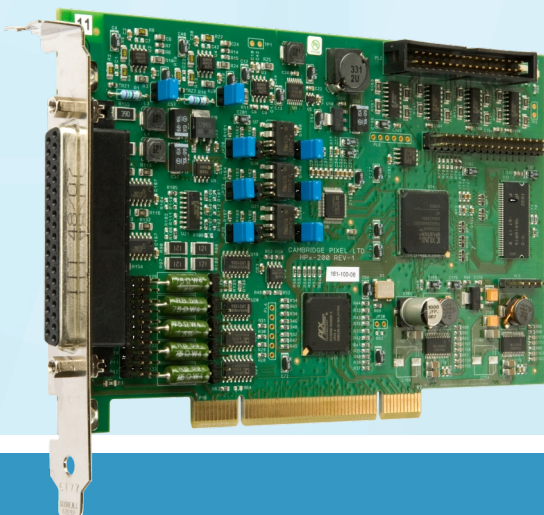
### Packaged Products

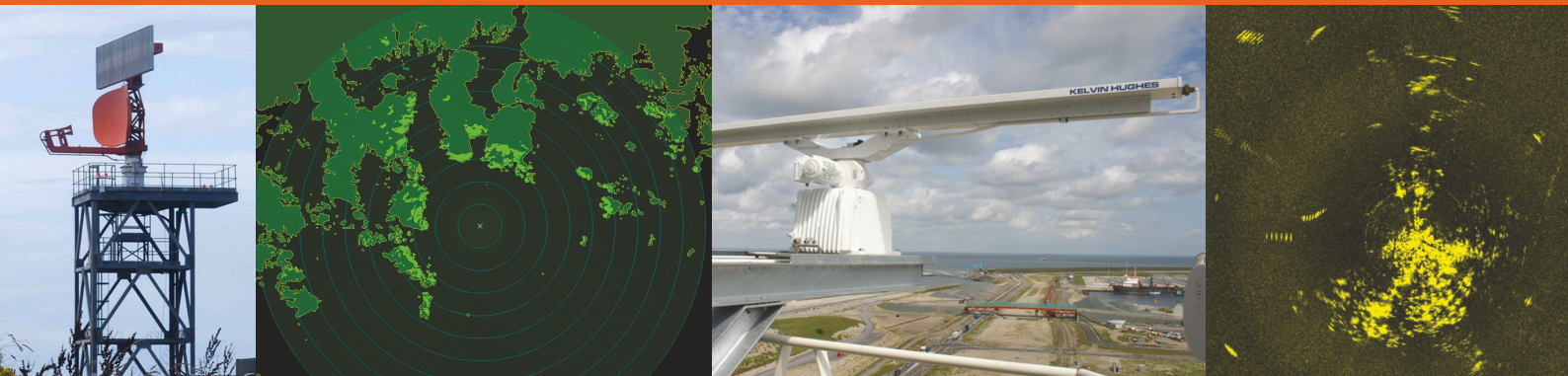
Product Part Number	Description	Record	Replay	Form factor
RS-1xyA	Record and replay unit	Yes	Yes	19" 3U/4U PC System
		x + y d 6		
RS-1x0B	Record unit	Yes x d 3	No	19" 3U/4U PC System or Compact PC Sub-system (for x = 1)
RS-10yC	Replay unit	No	Yes y d 3	19" 3U/4U PC System or Compact PC Sub-system (for y = 1)
For details of x and y see Record and Replay columns.		x = number of radar interface cards (0-3) y = number of radar output cards (0-3)  Specify x and y in the product part number to define the number of radar input and output cards needed. The software can handle up to 3 channels of ASTERIX CAT-240 as standard.		Other form-factors, including 19" rack-mount systems, are available. Consult factory for details.

### Components for customer integration

Product Part Number	Component	Description
161-100	HPx-200 (Half length, full height PCI card)	Radar input card for recording (PCI version)
161-110	HPx-200e (Half length, full height, x1 PCIe card)	Radar input card for recording (PCI express version)
231-100	HPx-300 (Half length, full height, x1 PCIe card)	Radar output card for replay (Only available in PCI express version)
110-590	SPx Simulator runtime license	Simulator software. Output is either ASTERIX CAT-240 video and/or radar signals (with HPx-300). Windows only.
266-500	RDR Application software runtime license	Software for Record/Replay using HPx-200 and HPx-300 cards. Windows only.

Hardware cards and software are supplied for customer integration in a Windows 7, 8 or 10 based PC. The requirements of the host computer depend on the number of channels for record or replay.





### Systems

**Physical:** Compact PC, 19" rack-mount PC or components  
**Operating Temp:** 0 to +55C (5% to 95% humidity @40C)  
 (For more specialised requirements, consult factory)  
**Software:** Based on Windows 7, 8 or 10

### Recording

**Network Radar Video:** 3 independent channels of ASTERIX CAT 240  
**Radar Signals:** Up to 3 HPx-200 radar capture cards for video, trigger, ACP/ARP  
 (Single-ended or RS422 signals, from 2V to 50V)

**Recording Capacity:** Typically over 100 hours for single channel system  
 (Consult factory for details based on number of channels and radar type)

**Compression:** Uncompressed, ORC, Zlib  
**Network data:** Record any network data without interpretation  
**AIS and navigation data:** From NMEA 0183 serial or network.  
**ADS-B and track reports:** From ASTERIX CAT-21 and CAT-48 messages  
**Network video:** From H.264 streams

### Replay

**Network Radar Video:** 3 independent channels of ASTERIX CAT 240  
**Radar Signals:** Up to 3 HPx-300 radar signal output cards  
**Network data:** Replay of recorded network data without interpretation  
**AIS and navigation data:** To NMEA 0183 serial or network.  
**ADS-B and track reports:** To ASTERIX CAT-21 and CAT-48 messages  
**Network video:** H.264 video output from built-in RTSP server

### Connectors

**Radar Signal Input:** 37W D front panel connector  
**Radar Signal Output:** 37W D front panel connector

### Performance

**Data transfer rate:** 50 MB/sec  
**Scan rate:** Up to 240 rpm

### Control

**Local display:** User interface for local control and configuration  
**Network API:** C++ / .NET based programming interface for remote control

### Simulation (option)

**Radar:** Configurable scan rate, PRF, sensitivity  
**Targets:** Programmable static or moving targets  
**Terrain:** Terrain database used for radar video creation  
**Visualisation:** Graphical display of simulation with editing  
**AIS and navigation data:** NMEA 0183 serial or network output



For more information, please contact: