

ASPL

Navigation & Communication Equipment Suppliers in India

AVIATION BUYER'S GUIDE

Cockpit Navigation, Communication & Headsets: What to Know Before You Buy in India

Panel-mount and portable avionics, ADS-B, VHF communication and headsets — how they work, how DGCA regulation applies, and what to weigh up before fitting them.

WHAT IT IS

What this equipment does

This category covers the equipment a cockpit runs on day to day: GPS-based navigation avionics, VHF communication radios, current navigation charts and databases, and the headsets pilots wear for hours at a time. Some of it is portable and carried from aircraft to aircraft, some is panel-mounted and wired into the aircraft's electrical and antenna systems, and the right choice depends heavily on whether the aircraft is flown under visual or instrument rules and what the equipment is meant to back up rather than replace.

HOW IT WORKS

The underlying technology

Navigation avionics use GNSS satellite signals to compute the aircraft's position, then combine that with a stored database of airports, airways and procedures to show the pilot where they are relative to a flight plan. Communication radios operate on the civil aviation VHF band (118 to 137 MHz) using amplitude modulation and 8.33 kHz or 25 kHz channel spacing, letting pilots talk to air traffic control and other aircraft on a shared, line-of-sight frequency. Aviation headsets sit outside this electronic chain but solve a related problem: cockpit and engine noise routinely exceeds 100 dB, so headsets use dense passive sound-isolating ear cups, and often active noise reduction (ANR) circuitry that generates an inverted sound wave to cancel low-frequency engine drone, to protect hearing and keep radio calls intelligible.

Questions worth answering before you buy

Portable or panel-mount

A portable GPS or handheld VHF radio runs on its own battery, needs no aircraft wiring, and can move between aircraft, which makes it a natural backup or a primary for light sport and recreational flying. Panel-mount avionics are wired into the aircraft's power, antenna and (for GPS) often the autopilot, giving better antenna performance and integration but requiring a certified installation before they can be used as primary equipment.

VFR-only or IFR-approved

Equipment intended for instrument flight rules navigation or approaches must carry the relevant technical standard order (TSO) certification and be installed under an approved modification. A portable GPS bought for situational awareness on a VFR flight is not legally interchangeable with a certified IFR navigator, even if the two units show similar information on screen.

Passive or active noise reduction in a headset

Passive headsets rely purely on cup design and seal to block noise, are lighter and need no battery, and suit shorter flights or noisier open-cockpit aircraft where ANR gives less benefit. ANR headsets add powered noise cancellation that meaningfully cuts fatigue on long flights in enclosed cockpits, at the cost of battery dependency and higher weight and price.

Database coverage and update cycle

Navigation databases from providers such as Jeppesen or the airframe/avionics manufacturer are sold by region and refreshed on a fixed schedule, so the real question is whether the subscription covers the airspace actually flown and whether the update workflow (SD card, app, direct download) fits the aircraft's equipment and how often it flies.

What governs this equipment in India

DGCA airworthiness approval for installed avionics

Under DGCA's Civil Aviation Requirements governing airworthiness, any avionics equipment wired into an aircraft, rather than carried loose in the cockpit, must be installed and approved through the appropriate certification route (an approved modification or supplemental type certificate) by a DGCA-approved maintenance organisation, and recorded in the aircraft's technical log.

ADS-B Out equipage mandate

DGCA requires ADS-B Out equipage, using the 1090ES data link, for aircraft operating at or above FL285 on notified ATS routes within Indian airspace, as published in AAI's Aeronautical Information Publication. Aircraft flying below that level or outside the notified routes are not currently subject to the mandate, though carriage is increasingly common practice regardless.

RTR(A) licence for radio operation

Operating aeronautical radio equipment in India, including handheld VHF transceivers, legally requires the operator to hold a Restricted Radiotelephone Operator's Certificate (Aeronautical), commonly called RTR(A), issued by the Wireless Planning and Coordination (WPC) Wing of the Department of Telecommunications, in addition to any pilot licence held.

Getting it fitted right

For panel-mount GPS units and radios, the antenna location and cable run matter as much as the unit itself: a GPS antenna needs a clear view of the sky and a radio antenna needs to be clear of airframe structures that can shadow the signal, and any installation should go through a DGCA-approved maintenance organisation so it is properly certified and logged rather than treated as a plug-in accessory. Portable GPS and handheld radios need no such approval but should be mounted or stowed securely, with a clear line of sight for the GPS antenna if it is external, and should be carried as backups to certified equipment on instrument flights rather than relied on as the primary source. Headsets need no installation at all, but ANR models are only as good as their seal and battery: check the ear seals for wear each season and carry spare batteries or keep the aircraft power adapter on hand, since ANR performance drops sharply once battery voltage sags.

FREQUENTLY ASKED

Common questions

Do I need DGCA approval to fit a GPS or radio into my aircraft's panel?

Yes. Any avionics equipment permanently wired into the aircraft counts as a modification and must be installed and certified by a DGCA-approved maintenance organisation, then recorded in the aircraft's technical records. A portable unit that simply sits in the cockpit and runs on its own battery does not need this approval, but it also cannot be logged as the aircraft's primary navigation or communication equipment for instrument flight.

Can I legally use a handheld aviation VHF radio in India without any licence?

No. Operating aeronautical radio equipment, portable or panel-mounted, requires the operator to hold an RTR(A), the Restricted Radiotelephone Operator's Certificate (Aeronautical) issued by the WPC Wing of the Department of Telecommunications, separately from any pilot licence.

How often does a navigation database actually need updating, and does it matter for VFR flying?

Aeronautical data worldwide is published on a 28-day AIRAC cycle, so any database used for instrument navigation should be updated every cycle to stay current with changed frequencies, waypoints, procedures and restricted areas. For purely visual flying the currency requirement is less strict, but an outdated database can still show a since-changed frequency or a decommissioned waypoint, so keeping it current is good practice even when it is not mandatory.

Aviation equipment ASPL supplies



IC-A25N / IC- A25C

ICOM

Key Features VHF Air Band Transceivers Built-in GPS with Simplified Waypoint NAV (for IC-A25N) Flight Plans with Android™ /iOS™...



Garmin D2 Air X15

GARMIN

Aviator smartwatch with AMOLED display, GPS navigation, weather and flight logging.



Jeppesen Database Update

JEPPESEN

Jeppesen navigation database subscriptions for compatible avionics.



Lightspeed Zulu 4 ANR Headset

LIGHTSPEED AVIATION

An active noise reduction aviation headset with magnesium ear cups, dual Bluetooth, and FrameFit ear seals, weighing 14.6 ounces.

Full catalogue and specifications: asplindia.in/products

Panel-mount and portable avionics, ADS-B transponders, flight instruments and navigation database subscriptions. Supplied, fitted and supported for Indian operators.

Avionics supply

Navigation and radio equipment, ADS-B and transponders, flight instruments, portable GPS and database subscriptions.

Aircraft integration

ASPL integrated GPS systems on Dornier aircraft, and handles installation and interfacing on both fixed and rotary wing.

DGCA certification

Certified by the Director General of Civil Aviation, alongside certification from Garmin International.

Database subscriptions

Navigation database updates and approach chart subscriptions kept current for your fleet.

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- Certified by the Director General of Civil Aviation
 - Certified by Garmin International
 - GPS integration on Dornier aircraft

Talk to ASPL

Authorised distributor of Garmin, Digital Yacht, TwoNav, Entel, and other leading global brands in India. Supplying, installing, and servicing GPS, AIS, GMDSS systems, avionics, and two-way communication equipment nationwide for 50+ years. Trusted by commercial fleets, aviators, and defense sectors for end-to-end technical support and certified maintenance.

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Recognised across sectors

The Indian Navy has standardised ASPL for maintaining Garmin GPS receivers across its fleet: aircraft, submarines, destroyers and surface vessels.

Procurement

Registered on the Government e-Marketplace (GeM). Authorised sales and service distributor for every brand we represent.

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