

FLIGHT SIMULATION TRAINING DEVICES



GET READY FOR REALITY



FROM INSIDE THE COCKPIT, COULD YOU TELL THE DIFFERENCE?

The Diamond FSTD has been precisely modelled after the DA40 and the DA42 aircraft. The instrument panel is fitted with the original Garmin G1000 NXi avionics suite and standby instruments. It is mainly built with original aircraft parts to achieve the most realistic cockpit environment, including aircraft specific cockpit switches, primary flight controls, throttle quadrant and flight crew seats.

The FSTD features accurate aerodynamics, comprehensive systems replication, realistic aircraft instruments simulation, as well as sophisticated environmental and visual effects.

The flight dynamic model is validated with aircraft reference data from our flight test department. Nobody knows it better than the manufacturer!

The Diamond FSTD is the only training device for the DA40/DA42 fleet available on the market that is based on an officially approved Diamond data package.

The Diamond FSTD guarantees an optimal transfer of training and behaviour between simulator and aircraft.



JUST LIKE THE REAL AIRCRAFT.

The FSTD can be used for basic and advanced pilot training including instrument, navigation and procedures training. Due to the aircraft specific cockpit and high fidelity software the Diamond FSTD can also be utilised for aircraft type specific training, such as cockpit familiarisation, Garmin G1000 NXi training and flight instructor training. It thus provides a distinctive added business value in comparison to more generic procedures trainers.



Minimum FSTD room dimensions:
6 m x 5,5 m x 3 m
19,68 ft x 18,04 ft x 9,84 ft



FSTD Cockpit dimensions:
2 m x 1,20 m x 1,65 m
6,54 ft x 3,93 ft x 5,41 ft



As aviation pioneers we are used to going beyond the expected and have taken flight training to the next level. Only Diamond Aircraft offers a complete line-up of type-specific flight training simulators. Operators and students alike benefit from economical practice time, including honing skills for emergency situations that can be scheduled irrespective of weather conditions. Built with real avionics, high-end visuals and sophisticated instructor operating stations, our simulators increase safety, efficiency and effectiveness and offer a cleaner, greener way to train.

DESIGNED FOR FLIGHT INSTRUCTORS

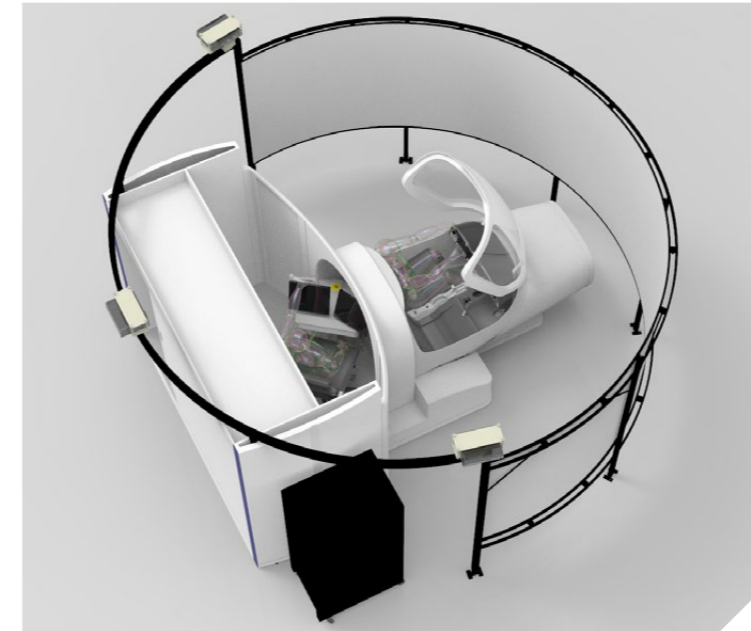


THE FLIGHT INSTRUCTOR WORKPLACE

The instructor operating station (IOS) has been designed with the goal to provide a pleasant and efficient work environment for the instructor.

IOS CABIN

The IOS cabin is enclosed on all sides with a sliding door at the rear end. It includes a desk and book shelves and dimmable ceiling lights.



FLIGHT INSTRUCTOR WORKSTATION

The flight instructor workstation (FIWS) brings the instructor inside the cabin while having full control over the training session. The FIWS is equipped with touch screen monitors on swivel arms, a retractable keyboard and a laser printer.



IOS SOFTWARE

The comprehensive IOS software provides flight instructors with the same capabilities as they are used to find in a full flight simulator - no small icons and buttons to click on with the mouse, but a self-explanatory touch-screen with logical system pages that can be operated intuitively.



„We decided to purchase the training device from Diamond Simulation as this FNPT is reliable and economical to operate. The prime reason was that the simulator is type specific with the same hardware and software as the actual airplane. The outstanding visuals allow for visual flight training and is logical and simple to operate for instructors.“

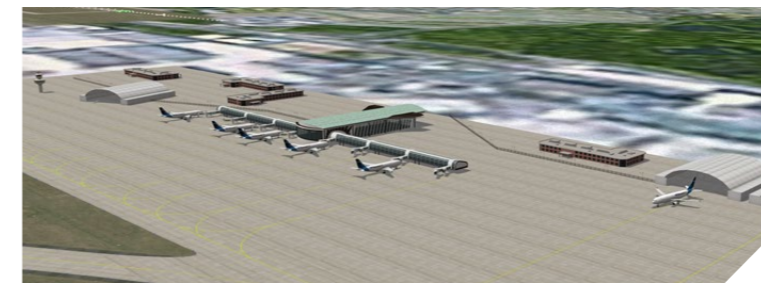
Corporate Communications,
Swiss Aviation Training,
Zurich-Airport



IMAGE GENERATOR

The Diamond FSTD comes with the GLOBAL CANVAS image generator (IG). This IG has been developed by Diamond specifically to match the typical usage profile of the Diamond FSTD.

The IG features two-cloud-levels and realistic cumulus clouds. It also includes weather phenomena, such as wind (movement of windsocks), rain, snowfall, and lightning. The standard database includes worldwide satellite image coverage (15m resolution) and worldwide generic representation for airports with “hard” runways.



The image generator contains generic models of all airports with published IFR approaches (Jeppesen ARINC 424 database) and areas of higher satellite imagery resolution up to 5cm per pixel. Custom airport models can be created on request.

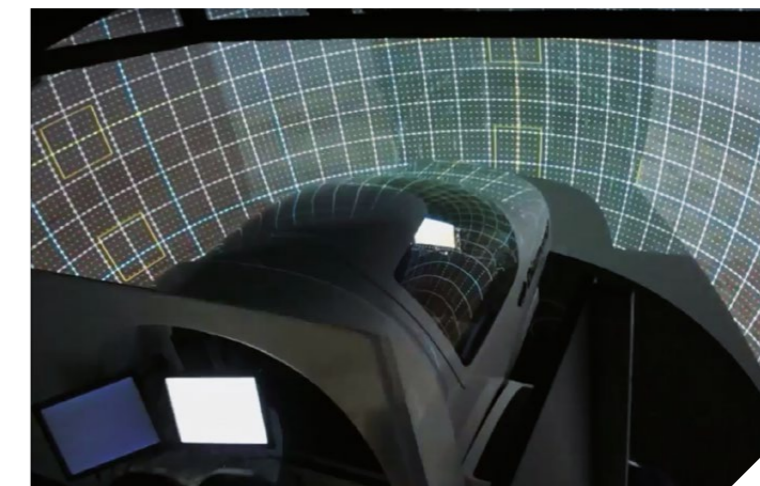


DISPLAY

The following display solutions are available:



Cylindrical Screen 200°x35°



Spherical Screen 220°x45°



The resolution of the satellite pictures is 15m per pixel. The image generator can render terrain textures with a resolution of up to 5cm per pixel.



AVAILABLE OPTIONS AND OPTIONAL FEATURES

CONVERSION KIT

An additional DA40 instrument panel is delivered with the simulator.

The FSTD can be converted between a DA42 and a DA40 configuration by swapping the instrument panels.

The software is automatically switched to the correct aircraft type.

The converted DA40 FSTD can be qualified as EASA FNPT II or FAA FTD Level 5.

AIR CONDITIONING SYSTEM

The air conditioning system of the DA40/DA42 can be provided with the following details:

Original operational AC control panel.

Integration of the AC system into the electrical system.

Engine power reduction when the AC system is switched on.

MCC CONVERSION KIT FOR DA42

The DA42 MCC is a tuned DA42 equipped with fictitious turbo prop engines that meet the CS-25 single-engine power reserves as required by the EASA regulations. Missing required systems, such as the pressurization system, are added for the MCC configuration.

The FSTD can be converted between a DA42 and a DA40 configuration by swapping the instrument panels.

DE-ICING PANEL

The TKS anti-ice system of the DA42 is simulated. The original control panel from the aircraft is correctly located within the instrument panel of the FSTD. The amount of anti-ice fluid is displayed on the G1000 NXi and can be adjusted by the instructor via the IOS software. The effectiveness of the anti-ice system will depend on the severity of the icing scenario selected by the instructor.

MPP KIT FOR DA42

The cockpit contains the following DA42 MPP specific elements:

MPP interior

Bubble canopy

Mission control panel (no functions implemented)

Hard point for pilot display

AUX fuel tanks

Garmin SAR option

The simulation software is adjusted to take account of the reduced performance of the aircraft (climb and cruise performance).

UPS

The computer rack will include an uninterruptible power supply that provides enough power to safely shutdown the simulator after power failure.

AVAILABLE OPTIONS AND OPTIONAL FEATURES

DEBRIEFING SYSTEM

The FSTD is equipped with a Session Recording System that allows stream recording of training sessions, consisting of:

One server computer for recording sessions and storing up to 1,600 hours of session data.

HD camera for the cockpit interior and the external vision straight ahead as seen from a viewpoint between the pilot and the copilot seat.

Recorded flight training sessions can automatically be transferred onto customer-provided long-term storage and backup solutions after the training session.

During a training mission, the flight instructor can start and stop the recording at any given time. Further on, bookmarks can be set by the flight instructor at any given point in time during the recording.

A session recording viewer for debriefing use is provided as installable software package for Microsoft Windows which can be used for guided debriefing, as well as individual self-debriefing.

The software allows loading and playing back session recordings with standard videoplayer controls (play/pause, fast-forward, rewind, seek on timebar, jump to event) and presents a freely resizable four-panel view.

A video panel showing the contents of the recorded cockpit video.

A moving map/approach panel showing a bird's eye view of the aircraft position and heading on a moving map or a paired vertical and horizontal profile of the approach path for a runway.

An EFIS panel showing a re-imagining of the G1000 NXi PFD contents with selectable CDI source and selectable engine instruments page.

A flight control panel showing the live position of the pitch, roll, and yaw controls, as well as the trim controls, power lever position(s), and the flap and gear controls.

Further on, for any point in the mission, the currently triggered malfunctions and disabled circuit breakers are shown.

CUSTOMIZED AIRPORTS (HIGH FIDELITY)

The custom airport models will provide higher detail compared to the generic models.

The airport area is textured with a 0.5 m/pixel satellite image.

Apron layout and correct building position according to aviation charts.

Representative apron markings are drawn for published parking positions according to the aviation chart.

The apron surface is a generic asphalt or concrete texture.

Generic 3D models of static vehicles and aircraft are placed on the apron.



One server computer for recording sessions and storing up to 1,600 hours of session data.

QUALIFICATION



QUALIFY YOUR FSTD. WE SUPPORT YOU!

The FSTD is delivered with the Qualification Test Guide (QTG) containing all information required for qualification in accordance to the respective national requirements and regulations. The QTG contains several tests (objective, subjective and function tests) which describe the simulator's functionalities and behaviour in detail and allow comparison of the simulator's characteristics with the respective reference data.

The IOS features an automatic QTG recording tool which allows automatic creation of test reports in pdf format.



MQTG AND E-QTG

Our engineers will prepare the master qualification test guide including the statement of compliance section that you will submit to the national aviation authority. With the e-QTG you have access to a 1 hour self executing QTG, your recurrent is only a few clicks away.

QUALIFICATION SUPPORT

We support you straight away. During this important phase our Lead Engineer will answer technical questions concerning subjective and objective testing, provide explanations and rectify findings.

Diamond FSTDs comply with regulations from EASA, FAA and all major aviation authorities worldwide. Your simulator can be qualified as FTD Level 5 FAA 14 CFR Part 60 and as FNPT II according to EASA CS-FSTD(A).

WE SUPPORT YOU ANYTIME AND GUIDE YOU THROUGH THE PROCESS!

Our engineers will prepare the master qualification test guide including the statement of compliance section that you will submit to the national aviation authority.



GLOBAL TECHNICAL SERVICES

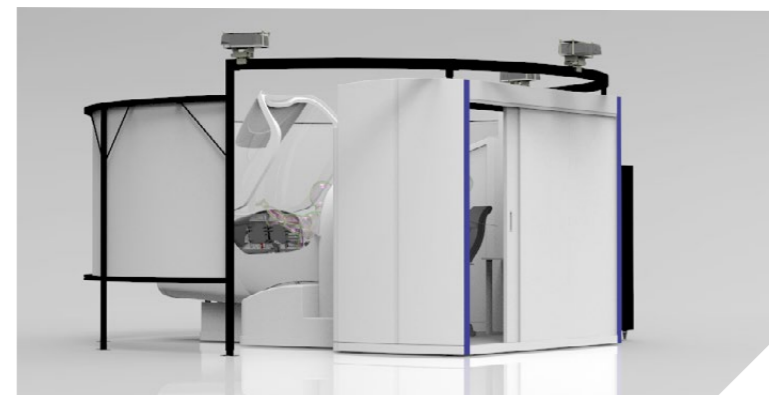
GTS – GLOBAL TECHNICAL SERVICES IS YOUR SINGLE POINT OF CONTACT FOR FIELD SERVICES AND AFTER SALES SERVICES FOR YOUR DIAMOND FSTD.

The Global Technical Services department (GTS) helps FSTD operators to navigate the wide range of customer services that the Business Unit Simulation of Diamond Aircraft Industries has designed for you. The GTS department bases its foundations on the long-lasting experience of Diamond Aircraft in the General Aviation market. The GTS team and GTS contact centre are located in the Diamond terminal in Egelsbach Germany (EDFE), which is only a short drive from Frankfurt International airport.

OUR RANGE OF SERVICES:

IN PLANT ACCEPTANCE

When the hardware is assembled and the software is installed Diamond Aircraft will thoroughly test all components of the FSTD. After the internal test Diamond Aircraft invites the customer for the In Plant Acceptance (IPA) which will be performed at the Diamond Aircraft factory.



The Global Technical Services Department (GTS) helps FSTD operators to navigate the wide range of customer services that the Business Unit Simulation of Diamond Aircraft Industries has designed for you.

DELIVERY AND INSTALLATION

After customer acceptance the FSTD will be prepared and packed in special crates for safe shipment. With the installation and delivery service the device will be sent to the final destination.

RELOCATION

Disassembly, transportation and installation at new location. Full maintenance check and recurrent QTG check as well as support for requalification after relocation with the national aviation authority.

GLOBAL TECHNICAL SERVICES

MAINTENANCE TRAINING

With modern and effective teaching methods, our BASIC TRAINING enables your personnel to operate the FSTD under normal conditions and also teaches them to troubleshoot the most common failure modes. ADVANCED TRAINING provides deeper system knowledge and also covers methods to fix more unlikely and complex malfunctions. Both programs also make your personnel familiar with our extensive simulator maintenance manual, which is structured with the scheme of the aircraft maintenance manual in mind.

FLIGHT INSTRUCTOR TRAINING

We train you to set up your training session, selecting malfunctions, set the weather and everything else. With our immediate trouble shooting training no session will be interrupted!

QTG TRAINING

Running the automatic QTG is easy but could you perform all tests manually? With our QTG training we provide the skills to run, evaluate and present the QTG recurrent check to the National Aviation Authority.

SERVICE AND SUPPORT

Via telephone, email, remote access or during our Field Service we identify your needs and address your issues.

SPARE PARTS

Our FSTDs are designed to last. The extensive use of commercial-off-the-shelf items minimizes the downtime and simplifies the most common maintenance tasks. Our recommended spare part listing complies with ARINC 434 guidelines and provides you the information to define your stock of simulator parts.

MAINTENANCE CONTRACT

One year or more, with the maintenance contract you have access to our support range with discounted rates and a lot of other benefits:

- Free remote support on demand
- Priority handling
- Free updates of the IOS software
- Free IOS NAVDATA quarterly update
- Free periodical inspection of FSTD
- Free remote support of recurrent qualifications of the FSTD
- Discounted rates for our range of maintenance, instructors and QTG training
- Discounted rates for field service

For more details check out our maintenance contract.

WARRANTY

Diamond Aircraft warrants all devices for 12 months. Warranty extensions are available to the subscribers of a maintenance contract.



FLIGHT TRAINING SOLUTION



LESS FUEL - MORE FLIGHT HOURS

Diamond aircraft burn up to 50% less fuel due to aerodynamic efficiency and fuel-saving jet fuel engines. You can benefit from additional cost savings through lower fuel prices for jet fuel.

NO. 1 IN SAFETY IN GENERAL AVIATION

Safety is critical to any business. Diamond has earned a safety record, backed by real world data, that is second to none. To learn more about our safety obsession visit our website at: www.diamondaircraft.com/about-diamond/why-diamond/safety

WE CARE ABOUT THE ENVIRONMENT

Diamond and Austro Engine invested a lot of time and money to bring new engines into aviation, which are environmentally acceptable, fuel-saving and exceptionally silent.

PROPRIETARY JET FUEL ENGINE

No manual mixture control, no magneto ignition, no manual priming, no prop control lever, no hard starting – hot or cold, no manual runup tests, no shock cooling, no cowl flaps, no power calculations based on rpm and manifold pressure. More efficiency in every regard.

MODERN AVIONICS

Back in 2001, Diamond Aircraft was the first to commit to GARMIN's - then top secret - fully integrated G1000 glass cockpit. The today's G1000 NXi, similar to those used in large airliners, offers unparalleled situational awareness and flight monitoring.

MODERN AIRFRAME

Made out of robust and strong glass and carbon fiber composite material, our safety cell meets high standards that are unique in our industry. Our rugged airframes have an unlimited lifetime and guarantee a high resale price.

YOUR PERFECT MARKETING TOOL: 21ST CENTURY APPEAL

With Diamond Aircraft you'll be part of the future. Planes certified according to 21st century aviation standards and not according to the "old days".



DIAMOND SIMULATOR
FNPT II



AUSTRO ENGINE AE300
JET-A1 PISTON ENGINE



PILOT + MAINTENANCE
TRAINING



GARMIN G1000 NXi
COCKPIT

SOLE SOURCE PROVIDER
Diamond got you covered: From the right aircraft and flight simulators to match any of your missions to the proprietary jet fuel engine it is fitted with, the glass cockpit to pilot training and EASA Part-147 certified maintenance training in their own ATO (Approved Training Organisation).



MEP: DA42-VI



SEP: DA40 NG
DA40 XLT



SEP: DA20i KATANA
DA20 C1

AVIATION AS UNIQUE AS YOU ARE



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