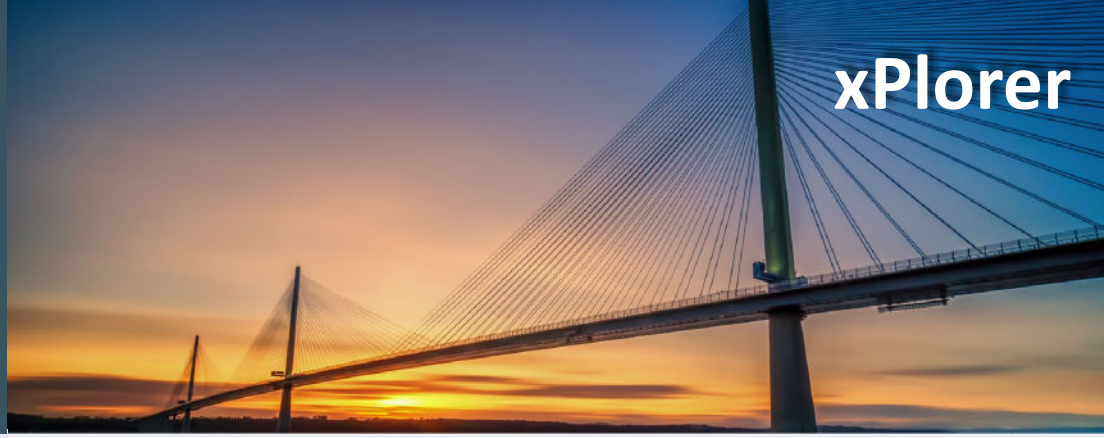
xPlorer

Central Recording and Processing Station



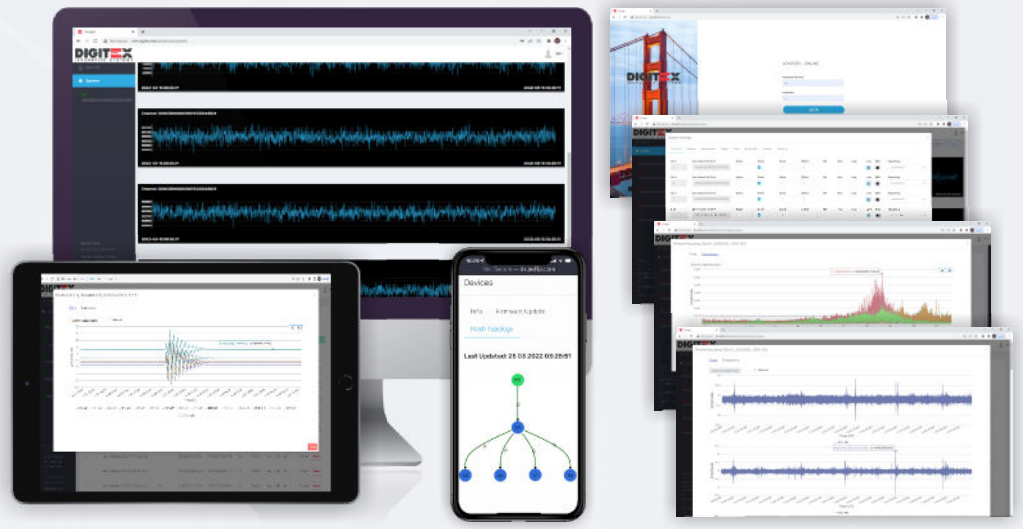
Key Features:

- Rugged industrial enclosure
- Web based server for generating reports
- Data archiving (triggered, scheduled or buffered)
- Real-Time data streaming to the web clients
- Triggering mechanism
- Pre-Post event management
- Data compression for reduced bandwidth
- Ethernet/Wi-Fi communication protocols
- GSM connectivity
- Self-Test function
- Remote power management
- Low power consumption
- GPS time and data synchronization
- DigiSYNC protocol for time and data devices synchronization without GPS
- Digital Output signals for alarming and integration
- Can provide Power Supply for all nodes

Overview

xPlorer provides Real-Time processing, recording, management and analyzes of data from all xDAS units in a daisy chain SHM system. It offers an affordable and flexible solution for field/remote acquisition and structural data analysis. It is designed for applications in harsh environments and small places. Size, weight, and cabling are critical design requirements in almost any installation. Temperature ranges of -20° to 55° C (-4° to 131° F) and a variety of international safety, electromagnetic compatibility (EMC), and environmental certifications and ratings are all available with xPlorer.

The system can be set up to run reliably for days, months, or years without stopping.



Features	
Sampling Rate	User adjustable
Synchronization	RTC, GPS, System Clock
Automated PDF	FFT, PA, PV, PD, AVG, His.
Rebroadcast	Multiple Users
Trigger	Configurable, Voting M.
Recordings	Trigger, Schedule, Buffer
Filter	5 Filter Topologies
Notifications	email, SMS
Device Config	Add/Edit/Remove
Digital Output	NO/NC Relay Output(s)
Units Connected	Up to 254

Environmental	
Operating Temp.	-20°C to 55°C
Humidity	90% non-condensing

Power	
Powering	110/220VAC
Battery Backup	External connector, 12V
Power Cons.	5-10W
Power for units	Can provide up to 100W

Physical	
Packaging	Rugged aluminum
Protection	IP66/IP67
Weight	700g
Dimensions	130x120x65mm

User Interface
Informational LED
System Configuration Panel
Web Application Panel

DIGITEX INNOVATIVE SYSTEMS

US Office:
9 Wildwood Trail
Ormond Beach,
FL 32174, USA

Europe Office:
23, Prashka
1000 Skopje
Republic of Macedonia

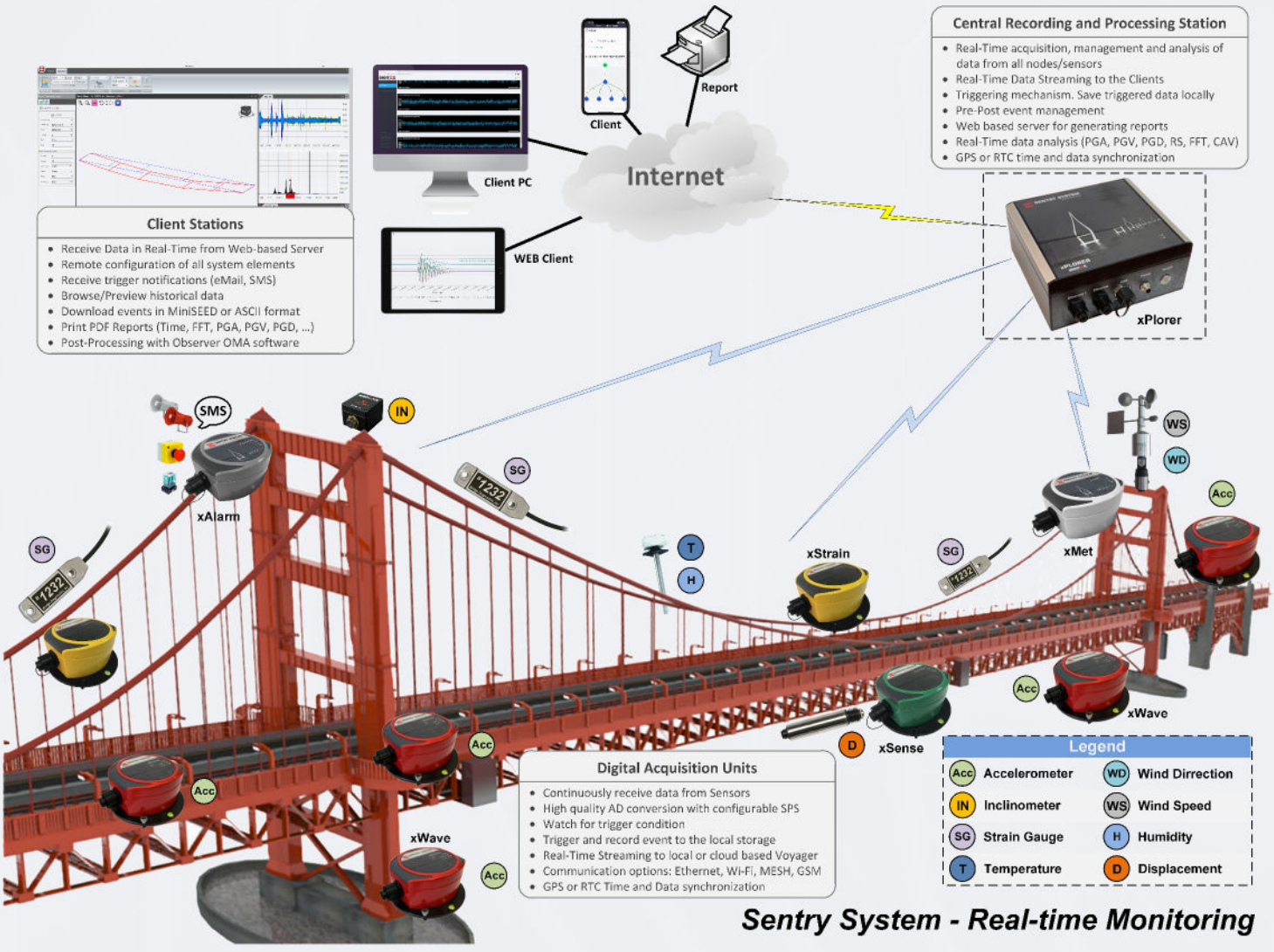
www.digitexsystems.com
+1.386.265.3122
+389.72.213.782
info@digitex.me

Real Time Monitoring System Architecture

The Digitex monitoring system is based on a highly efficient, multithreaded software design that allows the system to acquire data from a large number of xDAS units, monitor and condition this data, and distribute it, in real time, over the Internet to multiple remote locations.

Sensors on the structure continuously send out data to the system. If an event such as an earthquake occurs, pre-assigned thresholds of drift are exceeded in one or multiple locations, thus triggering the recording and analyzing of data (including pre-event memory). Once an event is recorded, the system notifies a list of users (via e-mail) and uploads the event via FTP to another site.

Using the "quick analysis" capability of the Digitex system, various measures of the monitored system's response can be distributed to multiple locations and displayed in real time. The system can cross correlate data, plotting useful information about the interaction between the dynamic loads on the structure and its modal characteristics. It can be used for a rapid (rough) estimation of the dominant structure mode being observed in the selected time window, as well as an estimator of the corresponding structure damping parameters.



About Digitex

Digitex is a company specialized in design and development of real time structural health monitoring systems for a variety of industries and applications including: bridges, tall buildings, campuses, windmills, oil rigs and more. Digitex's innovative solution for ambient vibration measurements and quick health assessment of structures is jointly developed and validated with our partners and advisors from the Universities. When properly configured, the Digitex system is capable of measuring and responding to both natural and man-made events such as: earthquakes, wind, explosions and accidental heavy impacts.

Rev 03/22

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