DAICO Industries

Our Mission

DAICO Industries, Inc. is committed to delivering Best-In-Class: Performance, Quality, Reliability and Value to our customers; and to the relentless pursuit of 100% Customer Satisfaction.

Unsurpassed **DAICO** Engineering

DAICO SOLID STATE RADAR TRANSMITTERS

Air Traffic Control - Airport Surveillance - Strategic Defense - Climate and Weather - Meteorological

DTX09501 Series Solid State (m+n)ART™ Automatic Redundancy Solid State Radar Transmitter

Since 2009, the **DTX09501** Series L-Band 14kW Solid State Transmitter is the first commissioned Mission Critical Radar Transmitter designed with DAICO's (m+n)ART™ - Automatic Redundancy Technology. This revolutionary technology combined with Daico's long-standing Defense Products design /reliability confidently offers a powerful 360kW transmitter. This uniquely configured Transmitter has been operating 24/7 and successfully performed through the infant mortality portion of the Life Cycle Bathtub Curve without any failures since its commissioning!

One **DTX09501** Transmitter interfaces with two SPS (Signal Processing System) racks to form a Mission Critical Radar Transmitter System. The Radar remains in service as long as one of two SPS Racks is in normal operation mode. Our decades of Control Products experience and Pulse Amplifier technology provide (m+n)ART™ transmitters with outstanding pulse quality including pulse-to-pulse stability. More importantly, we know how to prevent amplifiers from being damaged by unpredictable events through our 50 years of RF Control Component design and manufacturing experience.

The introduction of the (m+n)ART™ Transmitter, **DTX09501**, revolutionized Mission Critical Radar Transmitter design concepts based on Solid State technologies. (m+n)ART™ offers the performance, reliability, system MTBCF, system availability, and maintainability oriented technology. The technology is flexible and can be implemented in various frequency bands, power levels, degrees of redundancy, I/O platforms, and environmental conditions. Daico is committed to this technology and is eager to work with our partners to make the world's best transmitter systems with the best transmitter Performance/Cost ratio.

Applications

- **Airport Traffic Control**
- **Surveillance Radar Systems**
- **Airport Monitoring**
- **Air Marshalling Systems**

Daico's Revolutionary (m+n)ART™- Automatic Redundancy Technology Featuring Built-In Backup Virtually Eliminates Downtime of 24/7 Surveillance Radars with no interruption in service, no reduction in performance or duplication of costs... and provides on-line availability approaching 100% from a single transmitter.

DTX09511 Series Multi-Channel Transmit/Receive System

The **DTX09511** is a multi-channel full duplex Transmit/Receive (TR) System platform capable of generating up to twelve 1 KW phase adjustable RF signals all contained in a single rack. Each of the twelve amplified signals can be switched between an X and Y port allowing the system to drive two separate antenna feeds. The **DTX09511** series can be modified to specific customer requirements and is capable of being the core instrument in both modern military and civilian phased array radar systems - significantly improving radar system accuracy, flexibility, maintainability, and reliability.

The **DTX09511** consists of power supplies working in concert with the Power Distribution Unit (PDU) to drive the RF/TR Function Blocks (each PDU can drive up to six TR Blocks). The TR Block outputs are switchable to either an X or Y port. The system operates in full duplex mode to accept and process the returned signal while simultaneously transmitting. The **DTX09511** also includes a USB interface to allow for easy access to system status.

Applications

- Airport Surveillance
- Weather Monitoring
- Phased Arrays
- Test Ranges

Key Features

- Fully Duplexed Operation
- 12 Simultaneous Channels
- 12 KW Output Power, 1 KW Each Channel
- 20 dB Linear Dynamic Range
- Switchable RF Ports
- Adjustable Phase
- 1 KW RX Protection
- Power Supply Redundancy
- USB Control Interface

50th Anniversary
1967- 2017

- 50 years of Providing IF/RF/Microwave design, manufacturing and assembly solutions
- Full design, manufacturing and testing in 1 facility
- Reduction in design complexity for greater reliability
- Custom features can be added easily
- Custom solutions built around standardized templates
- Providing faster and less costly solutions
- No higher level quality and service than DAICO

The Choice is DAICO

CTX09634

In September 2014, Daico successfully demonstrated a 40kW (9+1)ART Building Block, P/N: CTX09634, in an actual SPS-49 Radar Transmitter platform. The SSTx with our (9+1) ART Architecture not only delivers highly reliable RF power capable of challenging Klystron technology, it also presents superior pulse quality. With the 7 “active” PAUs configuration, the SSTx Demo delivered 28kW at A(V2) pulse conditions and enabled successful detection of targets at >178NM range.

Specifications and Standards

- AS9100 (Committed)/ISO 9001 (Certified)
- IPC-A-610/J-STD-001
- MIL and Hi-Rel Class H and Class K
- ESD Program IAW MIL-STD-1686
- ANSI/NCSL Z540-1 Calibration
- SPC (Statistical Process Control)
- Attribute and Variable Data Recorded
- TQM (Total Quality Management)
- MIL-PRF-38534 (Screen and Qualification)
- MIL-STD-883 (General Procedures for Hybrids)

Markets Served

- DEFENSE Surveillance, Missiles, Fire Control...
- AEROSPACE Navigation Radar, Communications...
- COMMERCIAL SPACE Communications, Payloads...
- IF/RF/Microwave, DC-18 GHz
- INDUSTRIAL Controls
- Medical

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