



StarCaster® Automated Text-to-Speech VOLMET System

After more than 25 years of operations, STR-SpeechTech (STR) continues to lead the way in the development and delivery of high quality automated broadcast systems for mission-critical applications, using their proprietary StarCaster® Text-to-Speech technology.

StarCaster® VOLMET is the definitive cost-efficient solution for handling automated VOLMET broadcasting. STR has delivered and installed every automated VOLMET system in North America, as well as the Shannon VOLMET operating for the IAA in Ireland. STR's customers can attest to the millions of broadcasts and over 15 years of continuous operations provided by StarCaster VOLMET system.

StarCaster VOLMET is used to automate regularly scheduled or continuous audio broadcasts of weather information provided to aircraft in flight via HF or VHF radio. The system automatically downloads weather information in text format and converts the weather data into high quality voice output for broadcast. This fully automated VOLMET system is effortless to use, and makes more efficient use of valuable labor resources since it eliminates the need to perform labor-intensive live manual broadcasts. The system employs the StarCaster TTS technology to provide the ultimate clear and consistent natural voice, essential for critical message broadcasting.

StarCaster VOLMET uses proven StarCaster "speech concatenation" technology, STR's Text-to-Speech (TTS) process that has become the industry benchmark for superior quality voice output. The system employs the StarCaster TTS technology to provide the ultimate clear, natural voice, essential for critical message broadcasting.

The system can be combined to provide ATIS and VOLMET operations, allowing multiple remote operator and monitoring workstations for multichannel transmission of the broadcasts.

Technical Specifications

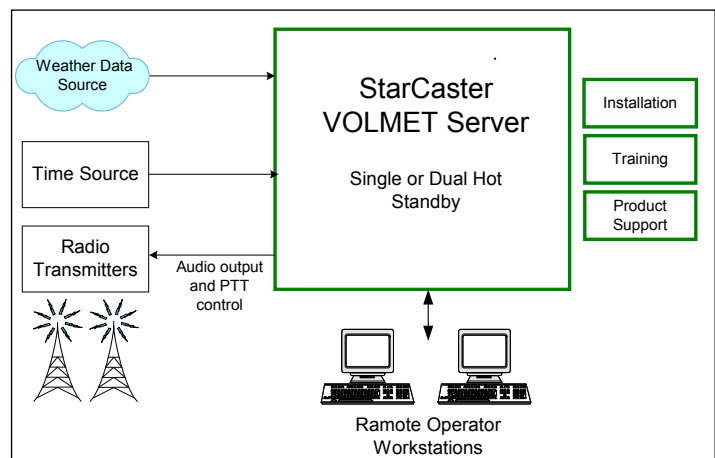
Hardware and Software:

The StarCaster VOLMET System is a PC-based system operating in a Windows environment, and uses commercially available off-the-shelf (COTS) hardware components. The system typically consists of a StarCaster computer (Pentium PC) with an internal high-end audio card used to produce the broadcasts, a PTT controller and a StarCaster VOLMET Workstation. The system can be configured for single or dual hot-standby requirements, with one or more workstations and multiple broadcast channels. StarCaster VOLMET was developed with a flexible, modular design, and can be configured specifically for each customer. It uses a text-to-voice generation process to automatically update and generate the VOLMET broadcasts.

Access to Weather Data:

The StarCaster VOLMET System provides a high quality, fully automated replacement to manually-produced VOLMET broadcasts, 24 hours a day, 7 days a week. The system is designed to automatically receive VOLMET weather information from any weather data source (i.e. AFTN, AWOS, network connection). Connection with data link or any weather data feed is typically a straightforward interface or configuration issue. This weather information is then used to produce voice output for the VOLMET Broadcasts, according to user specifications.

The StarCaster VOLMET system automatically generates and updates VOLMET broadcasts from encoded text data that are provided by a weather data source. An automatic process first filters the coded weather data to select the weather products required, then converts the selected METAR, TAF and SIGMET weather products from their encoded format to expanded English text.



The system organizes the data into a specific broadcast schedule (or continuous broadcast schedule, depending on the site requirements), and generates the audio broadcast in accordance with the schedule. The scheduled broadcast may include

weather data from various domestic and international aerodromes. The system then converts the data into an audio stream, which is passed to a radio transmitter. StarCaster VOLMET also controls the transmitter's Push-to-Talk (PTT) system.

Verification of Data

By continually receiving new weather data from the specified weather data source, StarCaster VOLMET obtains the most recently available data for weather products that are to be broadcast.

In order to do this, the system also performs a date/time check of the incoming weather data. This involves checking the time of issue of all filtered weather data in order to prevent current data from being replaced by data with an earlier issue time.

Before METAR and TAF data can be included in the VOLMET Broadcast, StarCaster VOLMET verifies that they conform to a predefined format. Any METAR or TAF data that do not conform to this format are identified as containing errors. Weather data items that contain format errors will be written to a log file, which can be viewed, printed and saved to disk.

User Interface

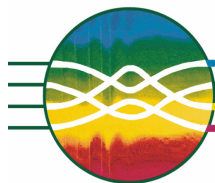
The VOLMET User Interface (UI) provides pull-down menus, a large work area, system status reports and a VU meter that monitors the output levels of the broadcast from the StarCaster VOLMET System audio card. All operations can be performed easily and effortlessly, with little or no user assistance required. The UI includes access to log files, viewing of current broadcast text and specific weather data items, running technical and diagnostics tests, password control and on-line help.

Available Features

- Complies with ICAO and WMO recommendations
- Flexible modular design for combined ATIS/VOLMET operations.
- Uses all COTS equipment
- Fully scalable – connectivity to Data link, future technologies
- Highest quality Text-to-Speech capability available
- Automatically receives weather data
- Automatic validation of weather data errors
- Automatic decoding of weather data from text to speech
- Automatic control of PTT
- Adjustable speech rate without loss of quality
- Real-time processing of incoming data
- Playback, confirm and edit message prior to broadcasting, with vocabulary search of standard information
- Full automated, semi-automated or manual modes
- 24x7 operation
- Performing audio test of broadcast channel
- Password control
- Viewing of broadcast, technical and error logs
- Monitoring of the system status
- Remote alarm
- Single or Dual Hot-Standby operation
- Remote operator stations
- Uninterrupted Power Supply (UPS)
- Connection to GPS for time synchronization
- Rack mounted workstation
- Multiple audio output (for monitoring and routing to more than one transmitter)
- Telephone access monitoring
- User interface in multiple languages
- Voice in multiple accents



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