Westel's DRB-25 is a compact base station/repeater unit which is fully compatible with the requirements of the APCO Project 25 standard for secure digital mobile radio. Its high power, features and flexibility make it an ideal building block for creating conventional radio networks.

The DRB-25 supports simultaneous analog and digital APCO Project 25 operation. Its cross-band feature permits communication across different bands as well, making the DRB-25 a highly cost effective migration path to digital radio.
KEY FEATURES

Westel’s DRB-25 has been designed to facilitate a smooth migration path from analog to digital operation by offering a digital capable unit which can be a simple plug-in replacement for existing analog equipment whilst, additionally, providing IP connectivity and interoperability between users operating in VHF and UHF bands.

Key features of the DRB-25 include:

- Inbuilt P25 IMBE vocoding and P25 DES-OFB encryption
- Simultaneous operation and linking of digital and analog terminals
- Simultaneous operation and linking of VHF and UHF subscribers
- Basestation and repeater operating modes
- Multiple call types (including individual calls and group calls)
- Inbuilt wireline capability providing direct connection to existing tone remote and console systems, PSTN and microwave links
- Inbuilt IP networking capability enabling direct connection to existing tone remote and console systems using IP links
- Inbuilt web-server providing access to real time user and diagnostic and alarm information
- Easy programming through Windows software
- Modular construction

This feature set allows unprecedented flexibility in providing users with a wide range of analog to digital migration paths and networking options.

APPLICATIONS

The DRB-25’s modular design and software based features make it an extremely flexible building block for a wide range of network applications.

The DRB-25 may be configured with one or two independent channels. Each channel may operate as an analog and/or a P25 digital repeater or may also be programmed to autosense the mode of a received signal.

With built-in P25 IMBE vocoding and DES-OFB encryption the DRB-25 may be connected directly to existing tone-based remote and console equipment using 2W and 4W E/M circuits. Direct connection to 2W telephone lines for analog and P25 digital calls is also supported.

The DRB-25 can operate in a standalone mode or within a conventional network using remote repeaters. Its compact dual radio configuration is a very cost effective solution for remote locations where one channel can be used as a basestation or repeater for general communications, while the second channel acts as a link to other base stations or repeaters.

The DRB-25 is transparent to CTCSS/CDCSS and P25 signalling and it may be used to link users in different frequency bands such as where a VHF repeater is used to provide area coverage and a UHF repeater is used as the control link.

The DRB-25 can also be used to link users operating in different modes and may be chained to provide coverage over larger areas.
**IP CAPABILITY**

In addition to the inbuilt wireline connectivity supporting tone-based remote and console equipment the DRB-25 incorporates an inbuilt IP networking and diagnostic capability.

Westel’s IP Diagnostics are hosted on an in-built web-server and allow the operation of the DRB-25 to be monitored over an IP network.

Westel’s IP Link provides the ability to link two DRB-25’s back to back over IP and supports both analog voice and unencrypted and encrypted P25 voice.

Consistent with the P25 Conventional Fixed Station Interface (Digital) IP Link provides true end-end encrypted traffic regardless of the encryption algorithm used in the mobile and portable subscriber units.

Westel’s Fixed Station Interface Access Point (FSIAP-25) enables analog tone-based consoles and remotes to be connected to digital repeaters over an IP network using the P25 Conventional Fixed Station Interface (Digital). With in-built P25 IMBE vocoding and DES-OFB encryption this provides end-end encryption from the remote/console to the subscriber units.

The FSIAP-25 is mounted in a 1RU 19" rack case. The analog interface is 4W and uses either industry standard tones or opto-isolated PTT. A Carrier Operated Relay (COR) opto-isolated output is available.

Westel’s Voter-25 provides the ability to link multiple DRB-25’s over IP and enables coverage over a wider area using receiver voting to route the best signal to other repeaters and the console.

FSIAP-25 and Voter-25 are intended for use with Westel’s DRB-25, Centralis and Trunkissimo multi-channel platforms and any repeater/basestation product supporting the Project 25 Conventional Fixed Station Interface (Digital).

Both FSIAP-25 and Voter-25 incorporate in-built P25 IMBE vocoding and DES-OFB encryption together with a wireline interface to enable direct connection of analog tone-based consoles and remotes.
### FEATURES AND GENERAL SPECIFICATIONS

#### Analog Operation
- Standard

#### P25 NB Operation
- Standard

#### Inbuilt P25 IMBE vocoding
- Standard

#### Repeater Operation
- Standard

#### Basestation Operation
- Standard

#### Tone Remote & Console Operation
- Standard

#### 12V DC Revert
- Standard

#### 12V DC
- Standard

#### 2/4W E/M Line Interfaces: Analog
- Standard

#### P25 Digital
- Standard

#### Licensed Software Options:
- Link Radio LF-05001
- P25 DES-OFB Encryption LF-05002
- VOIP LF-05003
- 12 kbit/s CVSD Repeater LF-05004
- P25 GPS Data LF-05005

#### Programmable Channels
- 512

#### Frequency Generation
- Synthesised

#### Channel Spacing
- FM

#### Analog Modulation
- C4FM

#### Operating Temperature Range
- -30°C to +60°C

#### Frequency Stability
- 0.5ppm (standard)
- 0.1ppm (optional)

#### Operating Modes
- Simplex/Semi-Duplex/Duplex

#### Diagnostics
- Inbuilt Web Server

#### Alarms
- AC/DC Power fail, High VSWR, Low Output Power

#### Input Voltage AC
- 110V or 240V

#### AC Power Connector
- IEC Type

#### Input Voltage DC
- 13.8V +/- 10%

#### DC Power Connector
- Powerpole 45A

#### Antenna Connectors (Tx/Rx)
- Type "N" female

#### Antenna Impedances (Tx/Rx)
- 50R

### DIMENSIONS, WEIGHT AND POWER CONSUMPTION

<table>
<thead>
<tr>
<th>Configuration</th>
<th>Weight (lbs)</th>
<th>Dimensions (w x h x d)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single Channel</td>
<td>61</td>
<td>19 x 14 x 17.5 (”)</td>
</tr>
<tr>
<td>Dual Channel</td>
<td>85</td>
<td>483 x 355 x 440 (mm)</td>
</tr>
</tbody>
</table>

### TRANSMITTER

#### VHF
- Tunable Frequency: 136 – 174 MHz
- Switching Bandwidth: Full Sub-Band
- Power Output: 100W
- Audio Response: +1 dB, -3dB from 6 dB per octave
- Audio Distortion: WB Analog 2%
- FM Hum & Noise: WB Analog 1W into 4R

#### UHF
- Tunable Frequency: 380 – 420 MHz
- Switching Bandwidth: Full Sub-Band
- Power Output: 50W
- Audio Response: +1 dB, -3dB from 6 dB per octave
- Audio Distortion: WB Analog 2%
- FM Hum & Noise: WB Analog 1W into 4R

### RECEIVER

#### VHF
- Tunable Frequency: 136 – 174 MHz
- Power Output: 100W
- Audio Response: +1 dB, -3dB from 6 dB per octave
- Audio Distortion: WB Analog 2%
- FM Hum & Noise: WB Analog 1W into 4R

#### UHF
- Tunable Frequency: 380 – 420 MHz
- Power Output: 50W
- Audio Response: +1 dB, -3dB from 6 dB per octave
- Audio Distortion: WB Analog 2%
- FM Hum & Noise: WB Analog 1W into 4R

### Specifications & Methods per TIA102CAAA/CAAB and TIA/EIA603 as applicable. Local Type Approvals do not necessarily cover all specified operating bands.

### WESTEL WIRELESS SYSTEMS

Westel products are manufactured in Australia and exported worldwide.

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