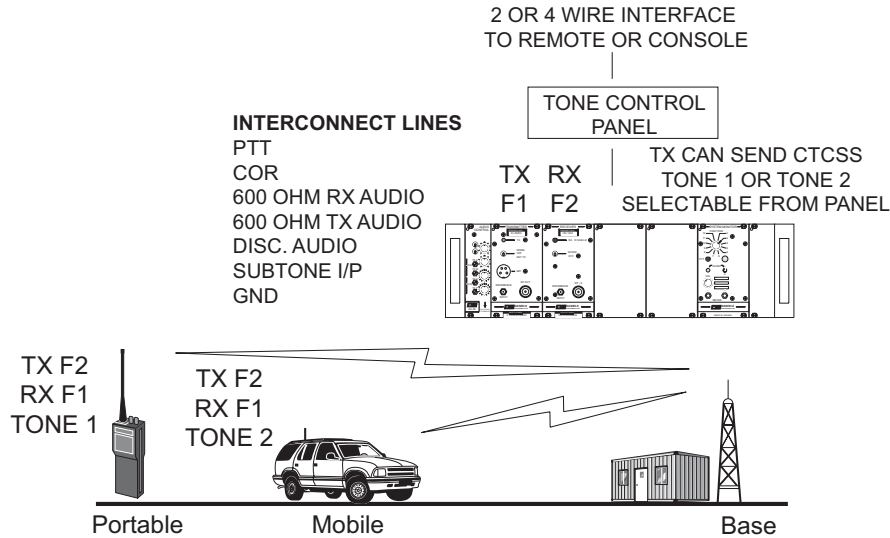


**AN560 Radio Station with Tone Conversion Systems**  
**“Converting Wireline Control Tones for RF Transmission”**



**Requirement**

Communications between the base and mobile / portables needs to be selectable from the base to go to specific users in the field. The base station is operated by tone remote and CTCSS tones are to be used for selecting users.

**Solution**

In some cases it is desirable to take an incoming wireline control tone such as 1950 Hz or 1850 Hz, etc. and convert them to either CTCSS or DTMF tones for transmission over the radio system. This provides a convenient way to send in-band telephone control signals to a remote station that can then be rebroadcast with a transparent CTCSS tone to select the correct user. The control tones can be used to select rebroadcast tones or to enable discreet receiver or transmitter modules.

**Frequency Bands / RF Power Output**

- 30 - 50 MHz / 3, 40, 100, 250 Watts
- 132 - 174 MHz / 8, 30, 100 Watts
- 406 - 470 MHz / 2, 8, 30, 100 Watts
- 806 - 869 MHz / 3 Watts
- 896 - 960 MHz / 3 Watts

**Related Applications**

- AN500 Tone or DC Remote Base Station
- AN580 Radio Station with Channel Selection

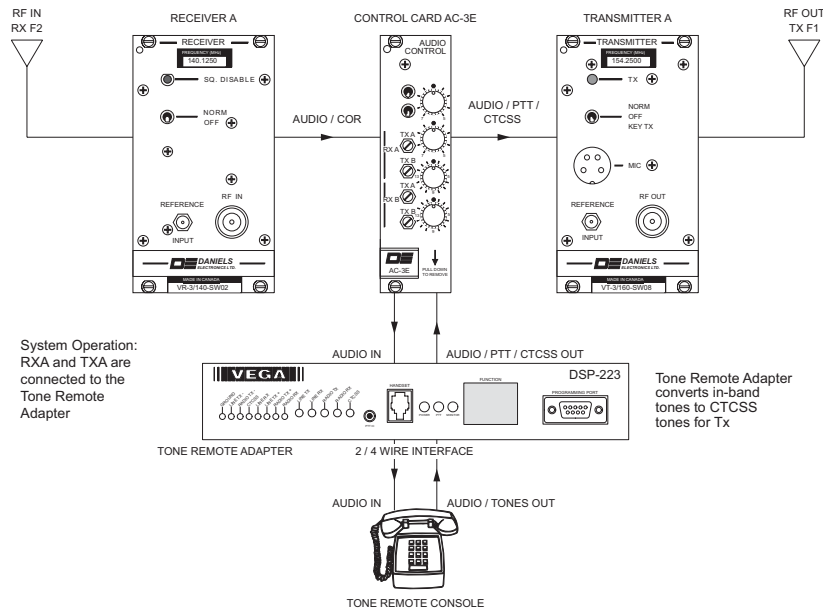
**Available Options / Features**

CTCSS, DTMF, DCS, Telephone Interconnect, Multiple Channels

# AN560 Radio Station with Tone Conversion Systems

## “Converting Wireline Control Tones for RF Transmission”

### System Block Diagram



Sample Block Diagram of a Base Station with Tone Control Conversion

### Required Equipment

- |                          |                                  |
|--------------------------|----------------------------------|
| • <b>xT-3/xxx-xxxxxx</b> | VHF / UHF Transmitter Module     |
| • <b>xR-3/xxx-xxxxxx</b> | VHF / UHF Receiver Module        |
| • <b>SR-39-1</b>         | Subrack                          |
| • <b>SM-3-H0-014-00</b>  | System Monitor                   |
| • <b>A-MIC-01</b>        | Microphone                       |
| • <b>IMxx-xxxxxxx</b>    | Instruction manuals              |
| • <b>AC-3E</b>           | Audio Control Card               |
| • <b>A-PNL-AUX96-3</b>   | Auxiliary 96 pin Connector       |
| • <b>CI-DSP-223</b>      | Vega Tone Remote Station Adapter |

### Optional Equipment

- |                          |  |
|--------------------------|--|
| • <b>AMP-2/xxx-30-00</b> | 30 Watt Power Amplifier                  |
| • <b>SM-3-H0-R1N-00</b>  | System Monitor with Single Antenna Relay |
| • <b>AC-DTMF-D2</b>      | DTMF decoder module                      |
| • <b>AC-CTCSS-DE1</b>    | CTCSS decoder / encoder modules          |
| • <b>PSA-12A09-P0-00</b> | AC Power Supply                          |
| • <b>PSD-15/08-P0-xx</b> | DC to DC Power Supply                    |