# Integrating TETRA PEI Radios with Your DCS-5020 Consoles





*Sepura SRM3500 and SRM2000*

*Motorola MTM800E*

*EADS TMR 880 and 880i*

You can use Zetron's Intelligent Radio Interface Module (iRIM) to integrate TETRA PEI radios with your DCS-5020 Digital Console System. Maximise your investment by not requiring any costly infrastructure connectivity while providing a majority of the same radio functionality. This is a cost effective way to:

- Quickly deploy a wireless console system to an existing Network.
- Provide a console system that can be used in a fixed location or as a mobile command facility.
- Maximize your investment by not requiring any costly infrastructure connectivity.

## TETRA PEI capable radios

The Peripheral Equipment Interface (PEI) standardises the connection of the radio terminal to an external device, and supports data transmission between applications resident in the device and the connected TETRA radio terminal. This allows a device such as the DCS-5020 to control the radio for voice and data transmission purposes in a command and control environment.

Using PEI on the radios in conjunction with Zetron Intelligent Radio Interface Module (iRIM) provides the following capabilities:

- Remote control of MTM800E, SRM3500, SRM2000, and TMR880 series of radios
- Decoding of TETRA PTT IDs; as well as Emergency messages and Status messages

- All radio progress tones passed to the console
- Voice delay to compensate for trunked-radio system key-up delays
- AGC (automatic gain control) on transmit audio
- Radio Interface Module Check function to ensure connectivity
- Control of two radios from a single Radio Interface Module
- Modular connectors and pre-set levels for easy installation
- Configurable over Ethernet using a standard web browser
- Desk or rack mounting (optional)

The following console features are supported via the DCS-5020 and where available via the radio model:

- Call ID decode and display: All calls to the console include the call ID or alias when made available by the radio to the interface.
- Emergency Calls: Both incoming and outgoing Emergency calls are supported.
- Group Calls: Both incoming and outgoing Group Calls are supported.
- Individual Calls: Both incoming and outgoing Individual Calls are supported.
- Direct or Trunked Mode: Both group and Individual calls are supported in both modes.

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- **SDS & Status Message:** Incoming and outgoing short and long messages as well as status messaging is supported.
- **Talkgroup Lists:** Both static and dynamic talkgroup lists are supported.
- **Talkgroup Folder Lists:** Talkgroup folders up to a single tier.
- **Talkgroup Scanning:** Includes the ability to set up Scan Lists.
- **Pre-emptive Transmit Priority:** Allowing the Dispatcher priority over all transmissions on a talkgroup.
- **Pre-emptive Group Call Set Up:** For obtaining an over the air trunked channel in times of congestion.
- **Encryption Enable / Disable:** Includes on screen display of encryption mode and received transmission as well as configuration to prevent encryption capable interfaces from being connected to non-encryption capable interfaces.

## How it works

The iRIM uses a Console Control Protocol that is common to a number of Zetron console systems (including Zetron's Advanced Communications [AcomEVO] system) to be able to provide a common console language between the Zetron console and any connected radio.

An iRIM control panel is used on the Console's User Interface to set up audio and data connections to the iRIM. The iRIM interprets the control protocol and translates it into a protocol that is common to the TETRA PEI radios that are connected.
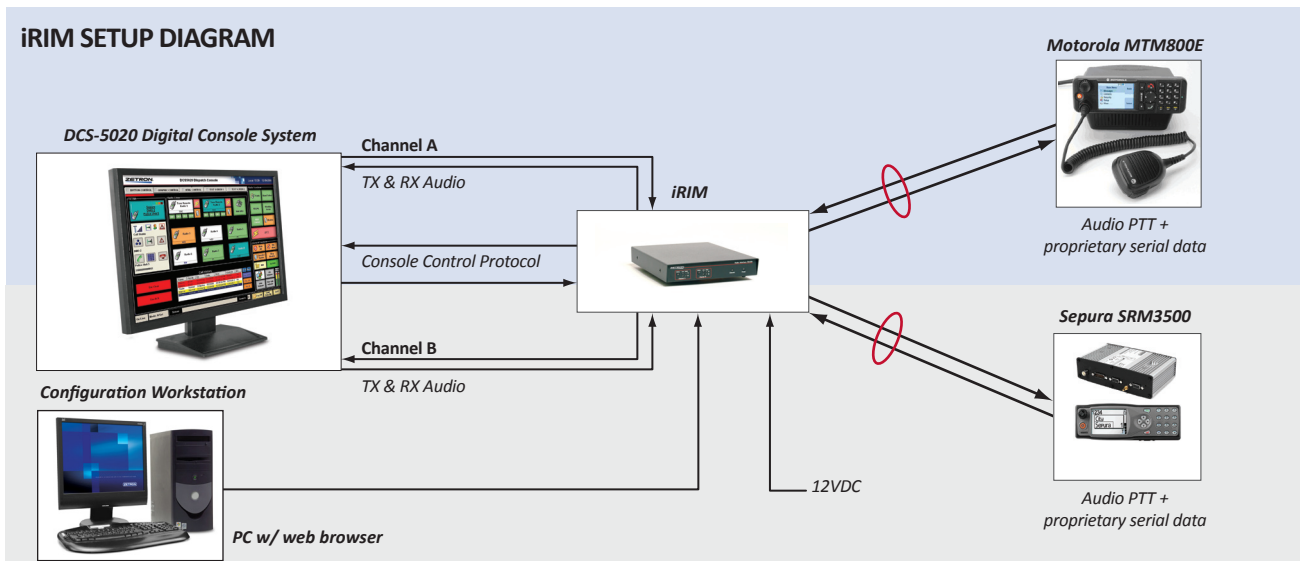
## How iRIM connects

The diagram below shows how an iRIM provides the connection between a DCS-5020 and TETRA PEI radios. Each iRIM can connect to two independent console radio-control and audio ports and two TETRA PEI radios. The console-side of the iRIM connects to the console's analog four-wire for audio and a radio-control port for control. This provides both transmit and receive audio connections and console control messaging respectively. The radio-side of the iRIM connects to the TETRA PEI control port. This provides transmit and receive audio connections. It also provides a PTT control signal as well as serial communications signals that can pass control and PTT-ID data to and from the radio. The iRIM can be remotely situated away from the console system if required.

## Further information

For more information about the TETRA PEI iRIM interface for the DCS-5020, including additional information about the radio technologies it supports, see:

- Intelligent Radio Interface Module for TETRA PEI Radios Product Manual (025-9579)

Or Contact Zetron Sales or your nearest authorised reseller.

**iRIM SETUP DIAGRAM**



*Motorola MTM800E*

*DCS-5020 Digital Console System*

Channel A

*TX & RX Audio*

*iRIM*

*Audio PTT + proprietary serial data*

*Console Control Protocol*

Channel B

*TX & RX Audio*

*Sepura SRM3500*

*Configuration Workstation*

*PC w/ web browser*

*12VDC*

*Audio PTT + proprietary serial data*