DCS 5020 Digital Console System

DCS 5020 Digital Console System

The DCS-5020 is designed to meet the needs of small integrated control rooms that combine radio and telephony interfaces. Combining telephony with digital or analogue radio control, it supports up to 30 channels and fifteen screen-based operator consoles. DCS-5020 meets a range of professional demands in the public safety, transportation, utility and private industry sectors.

Specific applications include mobile command, small control rooms and TETRA fallback systems. An architecture of distributed processing, with no central switch provides flexibility and scalability, delivering the high resilience demanded b these mission-critical applications.

The DCS-5020 includes Selcall (5-Tone), Digital Input/Outputs, and audio delay. The product is further strengthened by a range of technical requirements, building on the previous release and taking account of customer feedback.

Product Features and Configuration

- ☑ Customizable console screen presentation to suit customer application
- ☑ Wireless connection to TETRA infrastructure provides fallback capability
- ☑ Easy to use screen-based Graphical User Interface (GUI)
- ☑ Wide variety of audio and radio interface options
- ☑ Digital communications console system
- ☑ IP connected dispatch positions
- ☑ Integrates telephone call handling and radio dispatch
- ☑ Resilient distributed architecture
- ☑ 30 definable ports for lines and operators to a maximum of 16 operators
- ☑ Supports and integrates analogue radio, MPT 1327, NEXEDGE®, FleetSync®, iDEN®, MOTOTRBO™, and TETRA voice and data
- ☑ Screen-based, configurable Graphical User Interface (GUI) with intelligently integrated call queuing feature ar caller ID aliasing

- [x] Multilingual operator presentation
- [x] Range of operator and audio interface options

APPLICATIONS

The combination of telephony, conventional radio, MPT, and Digital Radio supports a range of console applications.

Small Control Rooms

The DCS-5020 is an economic solution for small control rooms for public safety, oil and gas, mining, events, industry, por and harbours. It brings many of the features of a large control centre into the smaller control room environment. The integrated radio and telephone functionality allows the operator to perform both call taking and dispatch functions. It can be employed as an incident control room without impacting on the role of the primary contro centre.

AT Communication ©

Mobile Command Centre

Mobile command centres can be established for special events, accidents or other major incidents by deploying the DCS 5020 as a transportable package. The operator can have access to multiple radio working groups, conventional radio channels or telephone circuits to manage incident personnel. For truly transportable applications, the telephone ports ma be fitted with GSM terminals for mobile telephony service. Digital radio connectivity is done through a number of fixed digital radios rather than direct to the infrastructure, providing a quick deployable solution.

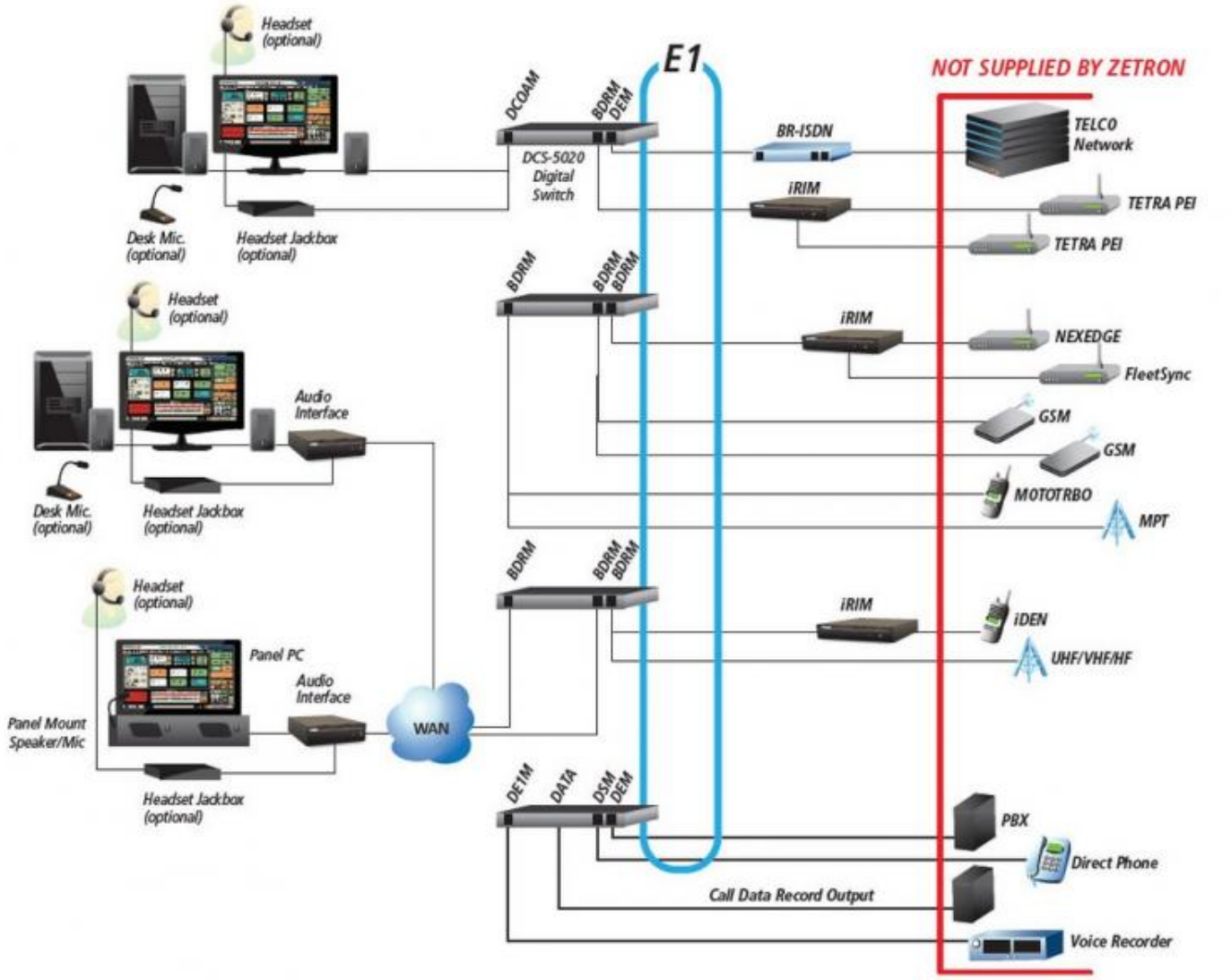
Fallback Control Centres

The DCS-5020 has a specific application for digital radio operators to ensure basic communications are maintained in the event of failure of key elements of the infrastructure. Failures of the network controller, links to repeater sites, or the primary control room are addressed by the DCS-5020 fallback solution which maintains critical communications between control room and field personnel via wireless interfacing to the network. A wireless console is preferred in these situations where connection to the infrastructure is not suitable for application, too expensive or not possible due to the location of the control room.

Command and Control Centres
with Mixed Technologies - Patching

For operators migrating from conventional to digital radio, the DCS-5020 provides a bridge enabling operators to manage both networks from a single position. Additionally, the operator can set up an interconnection or “patch” between the two networks so field personnel on one network can speak directly with the other. The patch can also be set permanently usir the maintenance terminal.

SAMPLE SYSTEM ARCHITECTURE



SPECIFICATIONS

PHYSICAL	
Digital Switch:	45 mm (1.75”) High (excluding 13 mm rubber feet) 430 mm (17”) Wide (excluding 19” rackmount brackets) 240 mm (9.5”) Deep (excluding cable exits)
ENVIRONMENTAL	
Operating Temperature:	0°C to +50°C
Storage Temperature:	-10°C to +60°C
Humidity:	95% RH at 45 degrees C, non-condensing
Power:	85 to 260 Vac, 47 to 63 Hz. 96 VA max per device12/24 VDC and 48VDC versions available
HOST PC REQUIREMENTS FOR INTEGRATOR DCS AND DCMS	
Processor:	Intel Pentium® IV or equivalent x86-class CPU, 2GHz
Operating system:	Microsoft Windows XP Professional Service Pack 2 Microsoft Windows 7 Professional
Memory:	512 MB
Video:	1024 x 768 resolution with a 16-bit colour depth (65,536 colours)
Input Device:	Keyboard, 2-button mouse
CD Drive:	Required for installation
Network:	10/100 Ethernet Connection (TCP/IP network protocol must be enabled) Only required for application features that support network operations
.NET Framework:	Microsoft .NET Framework (included on installation media)

DirectX:	Microsoft DirectX 9.0c or later
PDF Reader:	Adobe Acrobat Reader 8.0 or better (included on installation media) required for accessing electronic documentation
NETWORK REQUIREMENTS	
Device Payload:	1 Kbps idle, 104 Kbps active (136Kbps Ethernet) using G.711 per channel
Network Loading:	< 40% (< 30% mission critical). Bandwidth Ratio of IP bearer should be 2 to 3 times actual payload to ensure optimum voice quality
Packet Loss:	< 0.1%
Packet Error:	< 0.01%
Packet Delay:	< 400 ms (< 40 ms mission critical)
Packet Jitter:	< 50 ms (< 20 ms mission critical)
Network Type:	Fully switched Ethernet, full-duplex, capable of passing unicast UDP. Sharing the network with other IP traffic may negatively impact voice quality and therefore should not be considered for mission-critical applications

DCS-5020 Digital Console System - Radio - Telephone - Control