



dPMR™ MODE 3 EXTERNAL CONTROLLER IC-FC5000E



TOTAL dPMR™ MODE 3 TRUNKING SOLUTION

dPMR™ Mode 3

dPMR is a 6.25 kHz FDMA based digital radio protocol described in the ETSI technical standards TS 102 658.

It offers 6.25kHz spectrum efficiency, higher security and greater audio clarity even on the fringes of the communication range.

In a dPMR Mode 3 digital trunking system, when a user requests a call through a dedicated control channel, the trunking controller automatically allocates one of the traffic channels and sets up the call.

The system can accommodate a large number of users on a limited number of repeater channels with high efficiency. The System Control Software can interconnect multiple trunking controllers over an IP network, so the system can be expanded from a single site system to multiple sites and increases coverage.

System Features

- Dedicated control channel
- Efficient spectrum usage
- Up to 32 channels per site
One control channel, Up to 31 traffic channels
- Up to 32 site multi-site trunking
with CS-FC5000SCS System Control Software

- Channel License System
- Automatic roaming from site to site
- Subscriber registration

dPMR™ Mode 3 External Controller

IC-FC5000E



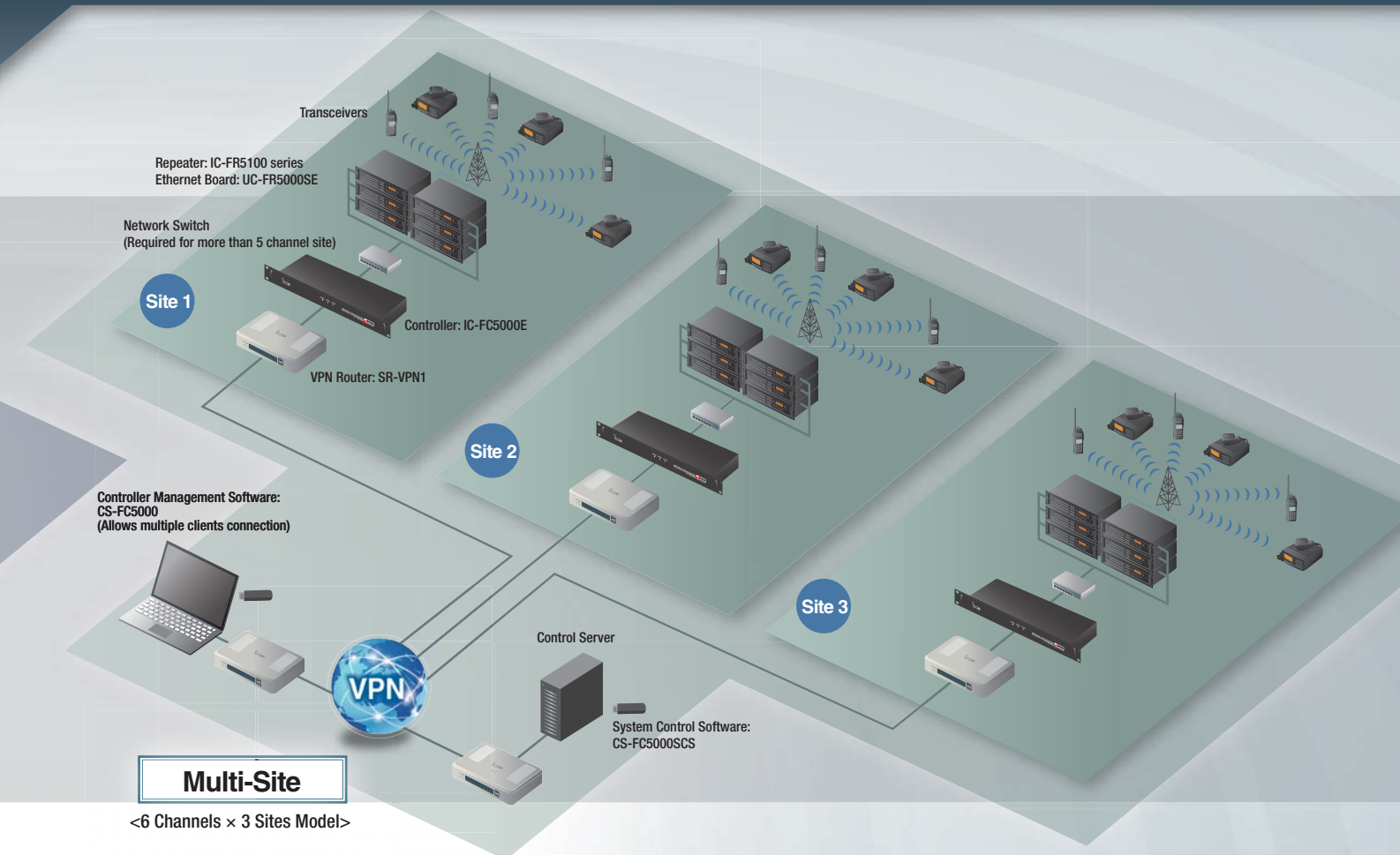
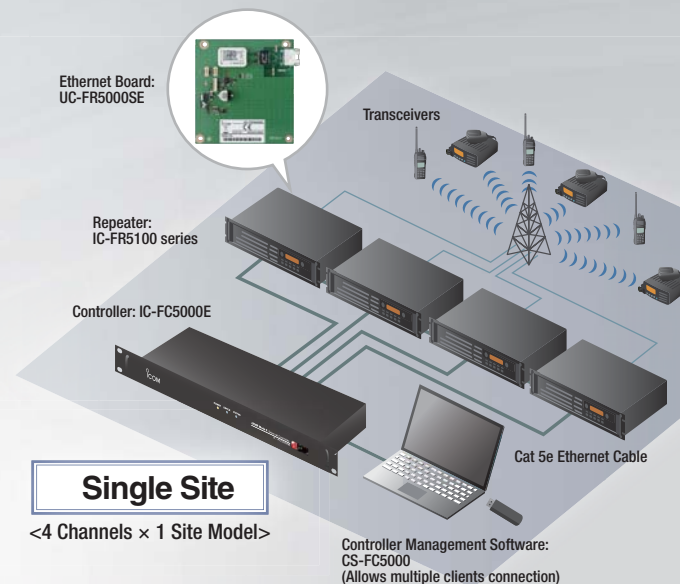
IC-FR5100 Series



IC-F3262DT/DS Series



IC-F5062D Series



Centralized Control Channel Trunking

The IC-FC5000E dPMR Mode 3 trunking system uses a centralized control channel system. The control channel is independent of the traffic channels and continuously transmits a control signal. The system allocates a traffic channel for the whole duration of a call and can provides quick response during a series of calls. The dPMR Mode 3 trunking system is suited to controlling a large number of users and congested traffic channels.

Up to 32 Channels in a Site

The IC-FC5000E controls up to 32 channels of connected repeaters over an IP network. (One control channel and up to 31 traffic channels.) The IC-FC5000E can be configured with the CS-FC5000 Controller Management Software via a web browser through an IP network.

Up to 32 Site Multi-site Trunking

When used with the CS-FC5000SCS, System Control Software, up to 32 trunking controllers can be connected over an IP network for linking multiple sites. A radio can communicate with other radios registered to the interlinked trunked sites for wide area roaming and calling service.

Channel License System

Four channel license activation key is supplied with the IC-FC5000E controller. When deploying five or more repeater channels in a site, additional channel license activation keys are required for each repeater channel.

Call Queuing

If all traffic channels are busy, the user's call request is automatically stored in the call queuing until a traffic channel is available. A beep sound notifies when a traffic channel is available.

Emergency Call with Pre-emption

The emergency call can give priority level to a normal call in the call queuing. If all traffic channels are busy, the emergency call forces another normal priority call to be cleared down.

Maintenance Features

- CS-FC5000 web based management software allows to connect multiple clients
- CS-FC5000 supports localized language for system labels
- Firmware update over an IP network
- Remote reboot of the trunking controller over an IP network
- Repeater anomaly detection and alert
- A traffic channel can be configured as a secondary control channel





Continued Feature Enhancements (Planned)

- Telephone interconnect
- 3rd party application interface
- Voice recording
- System administration enhancements

SPECIFICATIONS

Operating temperature range	0°C to +40°C
Power supply voltage	12V DC
Current drain (approximate)	600mA
Dimensions (W×H×D)	483×44× 219 mm (1U height)
Weight	2.25 kg
LAN	RJ-45 connector × 4 (100BASE-TX)
WAN	RJ-45 connector × 1 (100BASE-TX)
LED	Power, Error, Status
Conformity Standards	ETSI TS 102 658

COMPATIBLE MODELS

	VHF (136—174MHz)	UHF (400—470MHz)
Transceivers 	IC-F3262DT IC-F3262DS IC-F3162DT IC-F3162DS IC-F5062D IC-F5061D	IC-F4262DT IC-F4262DS IC-F4162DT IC-F4162DS IC-F6062D IC-F6061D
dPMR Mode 3 compatible transceivers (versions) are required.		
Repeaters 	IC-FR5100 IC-FR5000 IC-FR5100H UR-FR5100 UR-FR5000	IC-FR6100 IC-FR6000 IC-FR6100H UR-FR6100 UR-FR6000
dPMR digital repeaters (versions) are required.		
Ethernet Board 	UC-FR5000SE is required for each repeater.	
VPN Router 	SR-VPN1 is the best match VPN router for the IC-FC5000E trunking system.	

REAR PANEL VIEW



dPMR MODE 3 FEATURES AND SERVICES

Individual Call	Radio to Radio calls
Group Call	Radio to Group calls
Broadcast Call	One-way voice call to a preprogrammed talkgroup
All Call	Radio to all users calls
Gateway Call* (*External gateway device required)	This is any call through a gateway to or from line connected destinations. (Telephone or SIP phones) .
Short Data Message (SDM)	A data service that supports a variety of standard formats – Binary Code, Text, GPS.
Text Message	A text message of up to 100 characters can be sent and received.
Status Call	32 preprogrammed status messages can be sent and received.
Transparent Data Call	This function uses a dPMR radio as a data modem allowing data communication on a 6.25kHz channel such as for a remote telemetry system or data application.
GPS Data Delivery	Sends GPS position data with Status, SDM and emergency calls.
Emergency Call & Alert	This is the highest priority type of call. The network will attempt to connect this type of call as quickly as possible.
Pre-emptive Emergency	If all traffic channels are busy, this call service clears down an existing call and gives the highest priority for the emergency call.
Ambience Listening for remote monitoring	The ambience listening function allows the dispatcher to turn on the PTT from a remote location and transmit anything the microphone hears for a preprogrammed period.
Remote Kill	This function disables a lost or stolen radio over the air, eliminating security threats from undesired listeners.
Remote Stun/Revive	The remote stun function temporary locks out a radio until the revive command is received, or the user password is entered.
Call Back* (* Radio function)	Up to ten missed incoming calls can be stored in the radio to return the call later.
Call Queue	If a called party or channel is busy, the calling party is queued for the call. The call queue automatically connects the call when a channel or the called party becomes free.
Digital Voice Scrambler* (* Radio function)	dPMR radios provide a 15-bit digital voice scrambler with a total of 32000 encryption codes to enhance the conversation security.
ANI* (Automatic Number Identification) (* Radio function)	dPMR radios show the alias ID number on the LCD while receiving a call, allowing the radio user to identify who is calling.
Late Entry to group call	If a group call is in progress, when a member of the group turns on the radio or comes into the radio coverage area, this function shows caller's name and allows the user to join the conversation.
Call Limit Timer	Fixed or dynamic call time programmable.

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