



The Model 350 fits into the top shelf of the Motorola GR300/500 repeater cabinet or with a GM300/350/950 mobile radio.

FEATURES

- Combined remote radio controller and radio to telephone interconnect for mobile radio system.
- Connects to PABX extension or public telephone subscriber line (subject to approvals). Additional local telephone port for direct connection of dispatcher telephones.
- Direct access from telephone system to radio, dispatcher to radio, radio to telephone and radio to dispatcher.
- Installs on Motorola GM300/350/950 radios or GR300/500 repeater.
- Easy interface to Motorola GM300/350/950 radios or GR300/GR500 repeater cabinet with optional cables provided. Fits in top shelf of cabinet.
- Supports up to 100 radio users.
- Motorola, 2-tone (Quickcall II), 5-tone (ZVEI, CCIR and EEA) selective calling.
- Simple programming with DTMF telephone or radio.
- Built in dial click detector for pulse telephone systems.
- Provides group call and call forwarding.
- Optional digital voice delay for enhanced simplex operation.
- Optional local phone ringer to alert dispatcher telephone.
- EMC Approved, CE Conformity.

INTRODUCTION

The Zetron Model 350 is a combined remote radio controller and telephone interconnect for private mobile radio. It is designed to be quickly and easily installed with the popular Motorola GM300/350/950 radios.

Using the Model 350, calls may be made to the radio system either from directly connected local telephones as remote controllers, or from a dial up telephone line. The local telephone port supports up to 3 directly connected dispatcher telephones providing direct access into the radio system from up to 700 metres away. The dial-up port of the Model 350 may be connected to a PABX extension giving all PABX callers direct access to the mobile radio system and giving mobile users the ability to call individual PABX extensions.

Alternatively the Model 350 can be connected to a public subscriber line (subject to approvals) giving mobile users direct access to the public telephone network.

The Model 350 can also support tone only, or tone and voice pagers on the same system. Pagers can be called from the directly connected dispatcher telephones or dialled up through the PABX.

THE ZETRON MODEL 350 EUROPATCH

Personnel using mobile or handportable radios can be called from any PABX extension or subscriber line, or from one of the dedicated dispatcher telephones. Additionally, mobile radio users can call into the telephone system and call an individual telephone number. In a private system, employees with handportable radios may roam throughout the buildings and grounds covered by the radio system and still keep in touch with each other, the receptionist and office staff.

The low cost and ease of installation of the system makes the Model 350 ideal for many organisations:

- Industrial sites
- Hospitals
- Universities
- Hotels and restaurants
- Manufacturing and warehousing
- Sports Events

MODEL 350 EUROPATCH FEATURES

Calls from Mobile Radio

Mobile to telephone, or mobile to dispatcher access using 5-tone or DTMF access code, followed by DTMF number dailling.

Calls to Mobile Radio

Telephone to mobile, or dispatcher to mobile access by calling individual mobile radios using selcall.

Mobile to Mobile

Repeater Control for mobile to mobile calls when connected to a repeater.

Remote Radio Controller

In addition to connection to a PABX, up to three dedicated telephone sets may be connected directly to the Model 350. The telephone sets are connected to the local phone input using standard 2-wire telephone cable.

Easy Installation

Installs with Motorola GM300/350/950 radios or GR300 500 repeaters. Fits in top shelf of repeater cabinet.

Call Restrictions

Mobile radio users may be restricted on which telephone numbers may be called, e.g. external PABX line or long distance calls.

Group Call

Group call addresses are supported.

Unattended Autocall

If a telephone caller does not select an individual mobile, the Model 350 will automatically signal a predetermined radio or pager.

Call Timers

Call time limits may be programmed to limit system use. Warning beeps are sent when call time limit is reached and if necessary, the call may be automatically disconnected.

Call Forwarding

If a call to a mobile is not answered, it can automatically be forwarded to a different mobile.

Rotary or DTMF Telephones

The Model 350 supports rotary, pulse or DTMF telephones.

Dispatcher Monitor

A dispatcher on one of the three directly connected telephone sets may receive calls, monitor a call in progress and speak to both parties.

Emergency Control

A dispatcher may immediately disconnect a call in progress from the local telephone.

Optional Digital Voice Delay

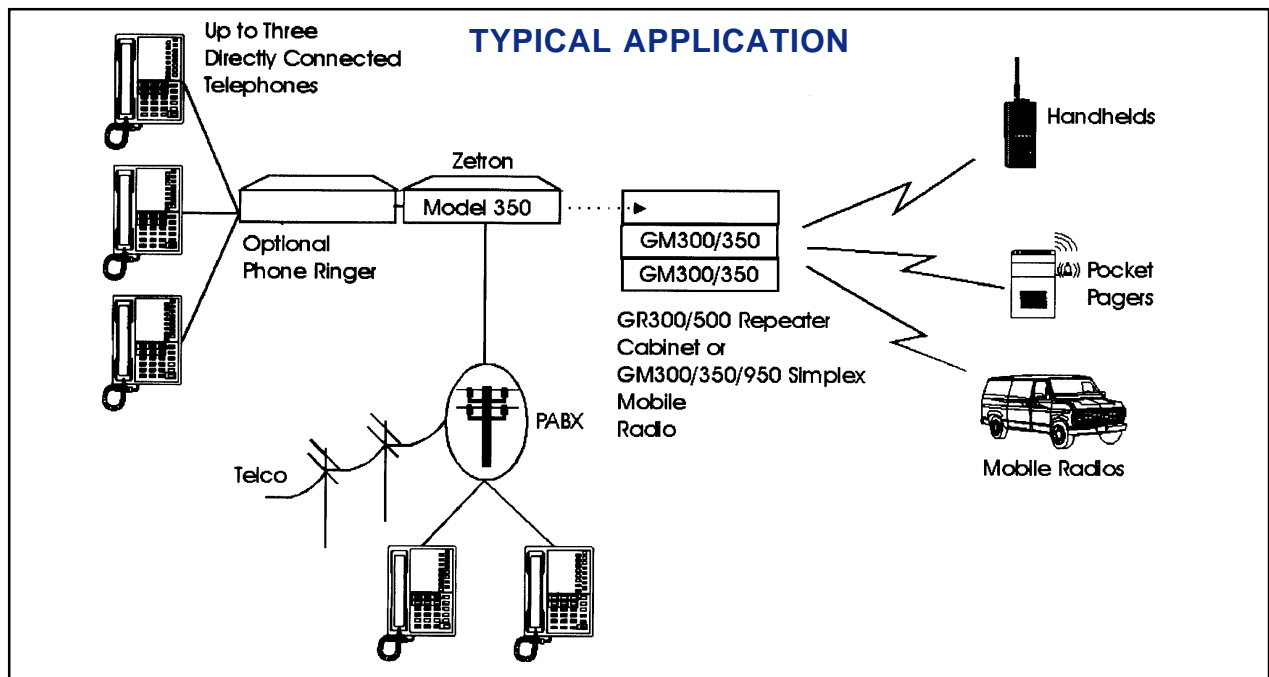
When connected to simplex radio, the digital voice delay improves the VOX switching.

Optional Local Phone Ringer

Rings a local dispatcher telephone when called from a mobile.

Disconnect Methods

The Model 350 will disconnect either manually by the mobile or telephone user entering a digit, or automatically based on inactivity timers.

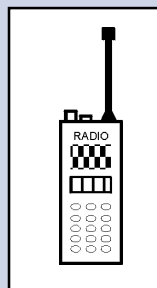


The low cost of the Model 350 makes it suitable for the smallest operation. It is economical for simple one way paging, or for a system that includes all the capabilities shown in this diagram.

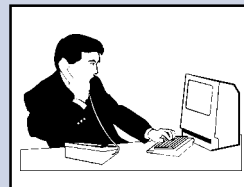
SYSTEM OPERATION

Calls from Mobile Radio to Telephone or Dispatcher

Mobile users on the system can call into the telephone system or call the local (dispatcher) telephone. To make a call, a mobile user enters a connect code, either manually or using a pre-programmed button. The mobile will typically key up and send this connect code automatically. The connect code may be sent as DTMF or 5-tone and if valid, the mobile user will hear beeps to enter a telephone number using the DTMF keypad on the mobile. The Model 350 will then connect the call through the telephone system or to the dispatcher. The local Phone Ringer is available as an accessory for the Model 350 to enable the Model 350 to alert the dispatcher to an incoming call.



Calling From Dispatcher to Mobile Radio

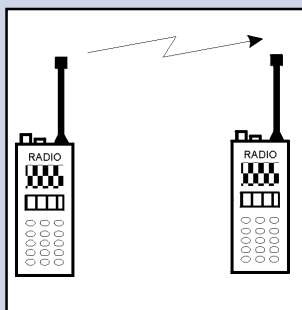


Up to three dedicated telephone sets may be connected directly to the Model 350. The telephone sets are connected to the Local Phone Input, using standard two wire telephone cable up to 700 metres in length. A dispatcher may call into the radio system by lifting the handset, hearing a confirmation beep and entering a two digit number of the individual mobile they wish to call. The mobile will then be called and dispatcher and operator can speak directly. A dispatcher may also monitor conversations simply by lifting the handset and listening. The operator can hear both phone-to-mobile and mobile-to-mobile traffic. The operator can also speak to both mobile and telephone parties directly and in emergency, may cut off the call in progress by pressing hookflash once. The current call is disconnected and the dispatcher may place a priority call.

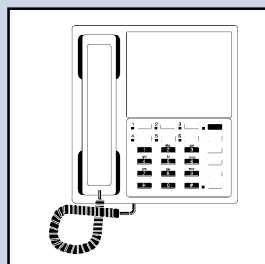
Mobile to Mobile

If the Model 350 is installed on a duplex base station, one mobile may call another through the Model 350. The calling mobile enters a DTMF access code either manually or using a pre-programmed button on the mobile.

If access is authorised, the mobile then enters the number of the radio to be called. The Model 350 will then call the other mobile using select 5 and conversation takes place through the base station.



Calls from Telephone to Radio



The telephone user dials the telephone number of the Model 350. The Model 350 answers with a beep and the caller enters a two digit number, being the individual number of the mobile he wishes to call. The mobile user will be called over the air using 5-tone or 'Select 5' signalling. The mobile user may then key up and speak directly to the telephone caller.

INSTALLATION

The Model 350 is typically located in or near the telephone room and usually occupies a PABX extension. Additionally, up to three telephone desksets may be directly connected. These desksets are connected using standard two-wire cabling and thus may be placed anywhere in the building to take advantage of existing runs of telephone cable.

A SIMPLEX installation requires the following:

- Model 350 EuroPatch with digital voice delay option (Zetron).
- Fixed radio (Motorola GM300/350/950).
- Radio power supply.
- Connector cable - EuroPatch to radio (Zetron).
- Antenna for radio.
- Field units (radios, hand portables, pagers).
- Optional local phone ringer if local dispatcher telephone being used.

SPECIFICATIONS

Telephone Interfaces

Line Type	Subscriber line, PABX extension
Connector	RJ11 modular jack
Incoming Call	Ring detection on tip-ring pair, selectable no. of rings to answer.
Call Answer	Off-hook, tip-ring current draw
Call Disconnect	Busy tone, call limit, mobile activity timeout, local override, or #0 from phone party
Ringer Equivalence	0.4B

Local Telephone Interface

Number of desksets	0-3. Typical phone deskset draws 13-20 mA. Depending on system, distances of 700 metres from M350 may be achieved.
Line Type	Loop start, 12V battery feed
Connector	RJ11 modular jack
Call Answer	Off-hook, tip-ring current draw
Call Disconnect	On-hook by operator, or call limit or mobile activity

Radio Interface

Connector	Standard GM300/350/950 plug
Connections	Rx Audio, Tx Audio, Carrier, PTT, +12 VDC, Ground, PL/DPL, flat Tx

Specifications

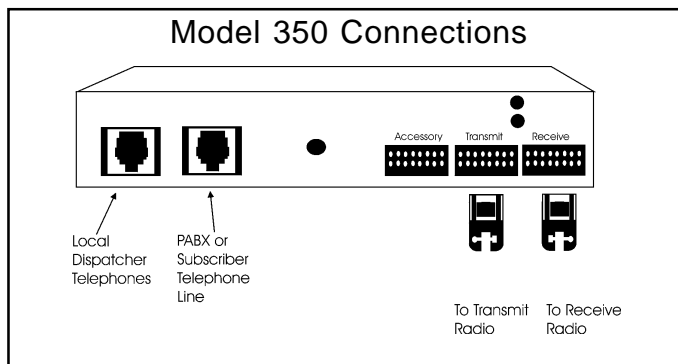
Equipment Types	5-tone mobile, 5-tone tone-only pager, 5-tone tone + voice pager, QCII group call mobile, QCII mobile, QCII tone-only pager, QCII tone + voice pager
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Selective Calling

Two-Tone	Motorola Quickcall II, tone groups 1-6, 100 capcodes
Five-Tone	Select 5, ZVEI, EEA, CCIR

General

Size	220 x 177 x 34 mm. Fits in top shelf of Motorola GR300/500 Repeater cabinet.
Weight	697 g
Power:	10.5 - 16 VDC, 200 mA (powered by GM300/350/950 radio) Up to 280 mA may be drawn if all three local desksets are offhook.
Operating Temp.	0 to +60 deg C.
Adjustments	Audio level, CTCSS/DCS, Click
Indicators	Power, Xmit, Receive, Phone



A DUPLEX installation requires the following:

- Model 350 EuroPatch (Zetron).
- Duplex base station (Motorola GR300/500).
- Base station power supply.
- Connector cable - EuroPatch to base station (Zetron).
- Duplexor and antenna for base station.
- Field units (radios, hand portables, pagers).
- Optional local phone ringer if local dispatcher telephone being used.

Controls

Prompt Tones	Connect/Disconnect
	Progress, error, and warning tones are sent to mobile or phone

Programming

Data Retention	Touch-tone phone, DTMF radio
Sec'dary Protection	EEPROM
	Telco high voltage clamps with protective fusing elements

Programmable Items

Operating Mode	Half-duplex, simplex VOX, Simplex VOX with Pre-Key
Connect Prefix	1 to 9 digits
Disconnect Prefix	1 to 9 digits
Toll Restrict	4 digits selectable for the 1st and 2nd dialed digits
Toll Restrict bypass	1 to 9 digits, can override toll restricts
Validation	100 user database
Mobile Dialling	DTMF or regenerated dial pulse
Rings to answer	1, 3 or 5
Repeat Control	Enable/disable
Repeat Tx hold time	0, 1, 3 or 5 seconds
Station ID	8 characters
Courtesy Tone	Enable/disable
Talk time	1-30 sec. for tone+voice pagers
1/2 privacy mask tone	Enable/disable
Call Limit time	None, 3, 5, or 10 mins
Mobile activity timer	30, 45 or 60 seconds
VOX hold time	0.5, 0.8, 1.0, 1.3 or 1.5 sec.
COR hold time	0, 100, 300 or 500 mS.
Busy disconnect	During 1st 20 seconds, during entire call, or disabled
Program access code	5 digits
Setup	Setup commands for ease of installation or system checking
Mobile answer time	0-60 seconds
Ringouts	Once on channel, or continuous
Carrier Repeat tone	Select PL or DPL for repeat operation
Call timer reset	Enable/disable mobile reset with *.

ZETRON

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See Zetron price list for option pricing. Specifications subject to change without notice.

Literature number: UK005-0077A

October 1997