

Wide Area Coverage

- **VHF, UHF, 800/900 MHz frequency bands**
- **Channel selective coverage extension**
- **On channel or channel translation mode of operation**
- **Suitable for conventional, trunking, paging and wireless data systems**
- **Configurations from 1 to 20 channels available**
- **Up to 30 W output power per channel**
- **Fully field programmable**
- **Simple, “no equipment” setup**
- **Remote programming and monitoring**

MULTEXCOM

MULTEXCOM Site Extender is designed to increase the coverage area of an existing radio site by receiving and rebroadcasting the signals from host to user (downlink), and from user to host (uplink).

In operation, MULTEXCOM is fully transparent to the user and system functions are identical whether the MULTEXCOM extender site or the host site is accessed. All the benefits and features of the host site are supported because both voice and data signals are rebroadcasted.

Many broadband extenders are available in the market place today. All of them are prone to interference from unwanted signals intermixed with wanted channels. Under certain conditions, these undesirable signals will degrade the broadband extender site performance and, in some cases, may even block users from operating into the host site directly. MULTEXCOM's uniqueness stems from its ability to provide channel selective coverage extension, supporting narrow-band voice, data systems, and rejecting undesired signals.

At the heart of the MULTEXCOM system are Channel Modules. These Modules are capable of operating in two different modes; either Translator or On Channel Repeater (OCR).

In Translator mode the input and output frequencies are different. This necessitates that the local frequency set be different from that of the host set. This configuration allows the maximum gain capability (160 dB) of the

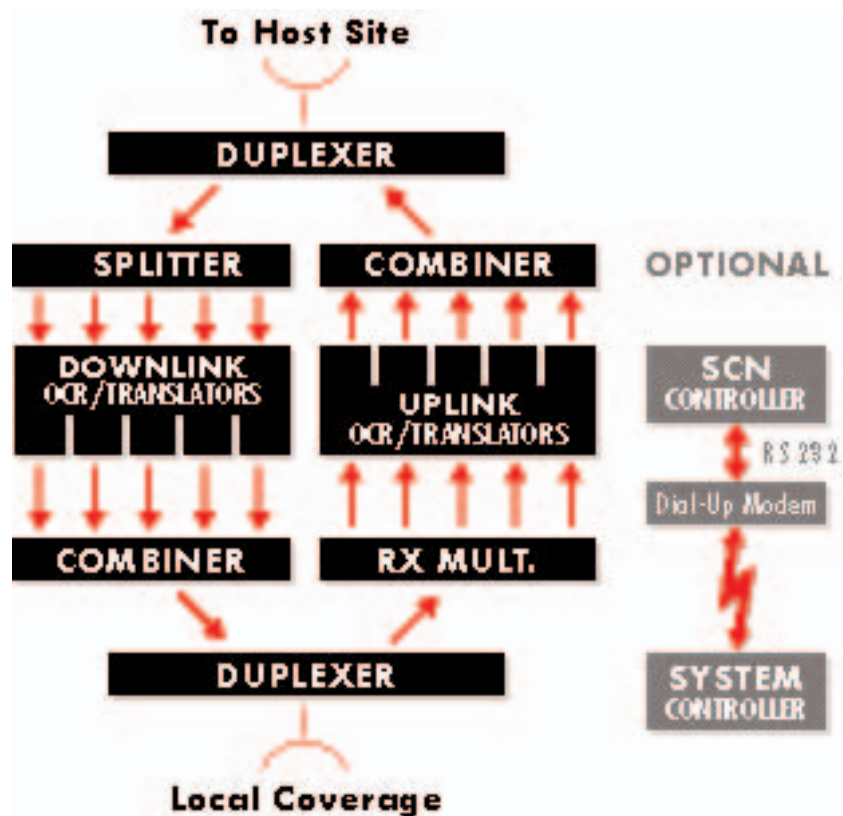
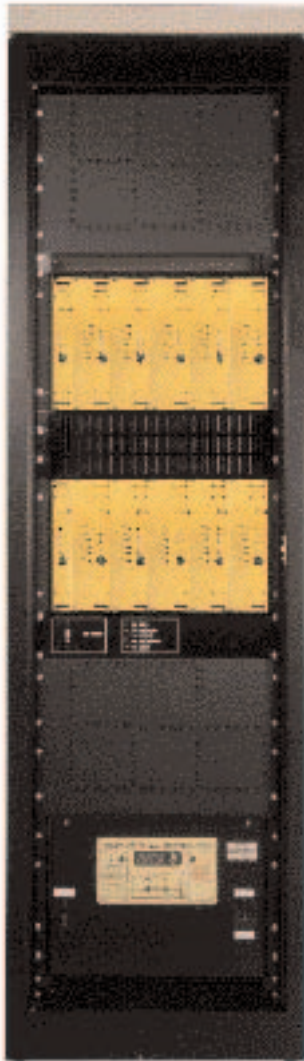
Translator Module to be utilized. Futurecom's Application Engineers can determine if your system is compatible for this mode of operation.

In OCR mode the input and output frequencies are the same. This limits the maximum gain that can be realized. Essentially, the maximum gain becomes a function of the isolation that can be obtained between the donor and local antennas. However, the advantage of this mode of operation is that it is compatible with most existing wireless networks and no new site frequencies are required.

Each MULTEXCOM Extender Site configuration is dependent on host site system requirements. A single 7 foot, 19 inch EIA rack can house as many as five RF channels, with Channel Modules and the required multicoupling ready for connection to antennas.

Provisions are made for remote operation of the MULTEXCOM extender site, and parameters such as DC Power, RF Power, and Antenna VSWR may be monitored from a central location. There are also provisions for remote control functions.

Typical Multi-channel MULTEXCOM Configuration



General Specifications

CHANNEL CAPACITY		1-CHANNEL	1-5 CHANNEL	6-10 CHANNEL
Modular Plug-In Assemblies		✓	✓	✓
VHF		•	•	•
UHF		•	•	•
800/900 Mhz		•	•	•
Cross Band Configuration		•	•	•
Cabinet Dimensions – H		24"	80"	80"
– W		14"	23"	23"
– D		12"	24"	24"
Cabinet Type		Wall Mount Cabinet	One 19" Rack Cabinet	Two 19" Rack Cabinets
Door Lock		•	✓	✓
Water Resistant		✓	○	○
Weight (at maximum configuration) kg		20	200	400
Power Consumption (A) @ 120VAC Input (at max. configuration)	– Standby	0.25	1.25	2.5
	– Receive	0.25	1.25	2.5
	– Transmit	2	13	26
Power Input	13.8 VDC	•	•	•
	28 VDC	•	•	•
	48 VDC	•	•	•
	120 VAC	✓	✓	✓
	240 VAC	•	•	•
Backup Power with Battery Charging		• ¹	• ¹	• ¹
Backup Time (Standard Option) (others available)		3 hour	3 hour	3 hour
Shutdown Protection for Low Battery		✓	✓	✓
Reverse Supply Protection		✓	✓	✓
Overvoltage Protection		✓	✓	✓
Operating Temperature Range		-30/+60 °C	-30/+60 °C	-30/+60 °C
Duty Cycle (Transmit)		100%	100%	100%
Thermal Dissipation	Convection	✓	• ²	• ²
	Fan-Assisted	○	✓ ²	✓ ²
Antenna Connector Type		N	N	N
Antenna Impedance		50-Ohms	50-Ohms	50-Ohms
Downlink Power Alarm		•	•	•
Uplink Power Alarm		•	•	•
Downlink VSWR Alarm		•	•	•
Uplink VSWR Alarm		•	•	•
Over Temperature Alarm		✓	✓	✓
AC Fail Alarm		✓	✓	✓
Low Battery Alarm		•	•	•
Intrusion Alarm		○	•	•
Site Controller (SCN)		•	•	•

- ✓ Standard
- Optional
- Not Available

NOTES

1. Backup Batteries require separate additional cabinet
2. High-Power Channel Units require Fan-Assisted Cooling. Convection cooling of low-power channel units available under some conditions.

MULTEXCOM Controller

MULTEXCOM can be optionally equipped with a Site Controller which provides access to additional features. The MULTEXCOM Controller (SCN) application software runs under MicrOS. This provides communication, task switching, and timing facilities. The SCN works as a concentrator, communicating with the Channel Modules and with a remote System Controller.

The SCN performs the following functions:

- Polls Channel Modules for a sanity check and status report
- Reports all anomalies/alarms to the System Controller
- Responds to polling from the System Controller
- Redirects all commands from the System Controller to the individual Channel Modules
- Redirects Channel Module responses to the System Controller
- Resets a Channel Module if needed
- Downloads individual Channel Module parameters from a site database upon module power up if enabled
- Initiates dial-up and answer control of dial-up modem

Supervisory features available with an optional MULTEXCOM Controller

CHANNEL CAPACITY	1-CHANNEL	1-5 CHANNEL	6-10 CHANNEL
Channel Power Alarm	✓	✓	✓
Channel VSWR Alarm	✓	✓	✓
Channel Over Temperature Alarm	✓	✓	✓
Channel Module Failure Alarm	✓	✓	✓
Channel RSSI Level Monitoring	✓	✓	✓
Channel Tx Power Level Monitoring	✓	✓	✓
Remote Monitoring and Alarm Reporting	✓	✓	✓
Remote Programming	✓	✓	✓
Remote Dial Up Access	•	•	•

✓ Standard • Optional



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