



CORNING

# E62-M3-L

MID POWER

7 Bands SISO

## Revision History

Revision Number	Revision Date	Summary of Changes	Author
1.0.0			

Copyright © 2022 Sunwave All rights reserved.

No part of this publication may be reproduced, transmitted, transcribed, stored in a retrieval system, or translated into any language, in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without prior written permission from Sunwave.

All copyright, confidential information, patents, design rights and all other intellectual property rights of whatsoever nature contained herein are and shall remain the sole and exclusive property of Sunwave. The information furnished herein is believed to be accurate and reliable.

However, no responsibility is assumed by Sunwave for its use, or for any infringements of patents or other rights of third parties resulting from its use.

The Sunwave and CrossFire names and logos are trademarks or registered trademarks of Sunwave.

All other trademarks are the property of their respective owners.

### FCC Warning:

Please take attention that changes or modification not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) This device must accept any interference received, including interference that may cause undesired operation.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 230cm between the radiator & your body.

### Part20 Warning:

**WARNING.** This is **NOT** a **CONSUMER** device. It is designed for installation by **FCC LICENSEES** and **QUALIFIED INSTALLERS**. You **MUST** have an **FCC LICENSE** or express consent of an FCC Licensee to operate this device. Unauthorized use may result in significant forfeiture penalties, including penalties in excess of \$100,000 for each continuing violation.

**Part 90 warning:**

“WARNING. This is NOT a CONSUMER device. It is designed for installation by FCC LICENSEES and QUALIFIED INSTALLERS. You MUST have an FCC LICENSE or express consent of an FCC Licensee to operate this device. You MUST register Class B signal boosters (as defined in 47 CFR 90.219) online at [www.fcc.gov/signal-boosters/registration](http://www.fcc.gov/signal-boosters/registration). Unauthorized use may result in significant forfeiture penalties, including penalties in excess of \$100,000 for each continuing violation.”

This document describes the installation procedure for the E62-M3-L unit.

This is NOT a CONSUMER device. It is designed for installation by FCC LICENSEES and QUALIFIED INSTALLERS. You MUST have an FCC LICENSE or express consent of an FCC Licensee to operate this device. NOTE: Only authorized person can enter the area where the antenna is installed. And the person is fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means. Awareness of the potential for RF exposure in a workplace or similar environment can be provided through specific training as part of a RF safety program.

## Overview

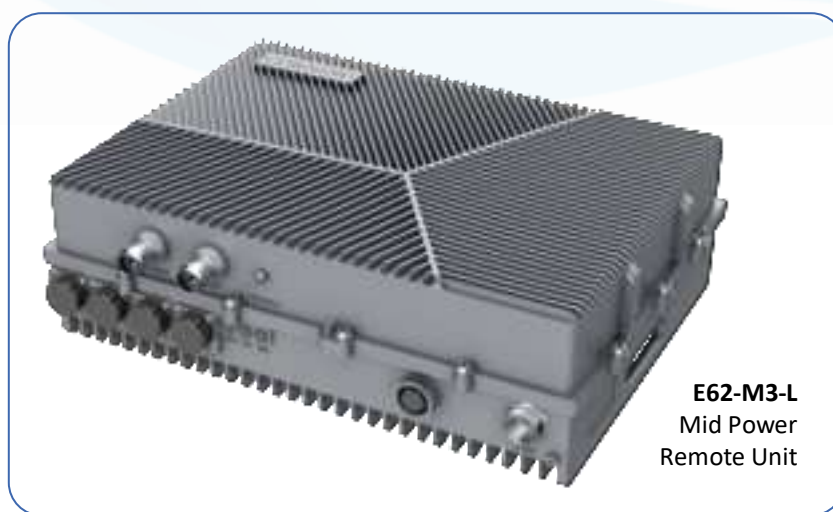
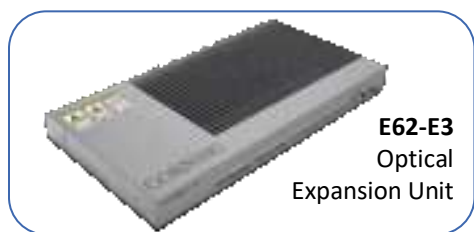
Everon E62-M3-L is a multiple-band mid-power remote supporting cellular technologies on fiber optic cable using the CPRI protocol. The power amplifier technology adopts Digital Pre-Distortion, allowing for a significant improvement in power consumption compared with analogue technology. This platform is ideal for multi-operator multi-band deployments of cellular services into indoor coverage areas.

## Key Features

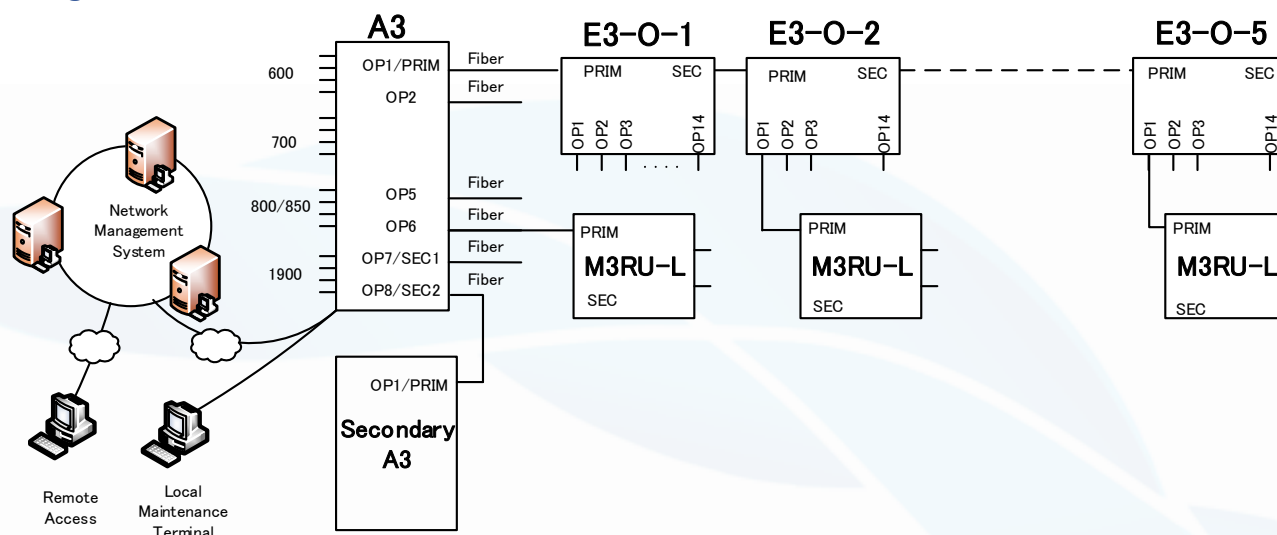
7 Bands SISO  
Full IBW  
Single Fiber link

Up to 39dBm Output Power  
Supports External Alarm  
5G NR Compliant

## System Elements



## Block Diagram



## Technical Specifications

System				
Maximum RF Bands per Access Unit	4			
Maximum RF Bands per Remote Unit	7			
Maximum Access Units per System	3 (1 x Primary A3 / 2 x Secondary A3)			
Maximum E3s per Primary A3	8			
Maximum M3RUs per E3	14			
Maximum Cascaded Level	6			
Maximum IBW	200MHz			
Band Selective Mode	≤100MHz, @1MHz step			
Channel Selective Mode	LTE: 5/10/15/20 MHz NR: 5/10/15/20/30/40/50/60/70/80/90/100 MHz			
Fiber transmission Capacity	48 Basic Units			
Filter Bandwidth	≤ 25M	25<BW≤ 50M	50<BW≤ 75M	75<BW≤ 100M
Basic Units Occupied	1	2	3	4
M3RU DSP Capacity	12 DSP Units per Band			
Filter Bandwidth	≤ 25M	25<BW≤ 50M	50<BW≤ 75M	75<BW≤ 100M
DSP Units occupied	1	2	4	4
Maximum Filters Supported per Band	4			
System Delay Adjustment	Up to 80.00μs			
System Delay (A3+E3+M3)	12μs			
VSWR	<1.6			

Supported Bands				
Band	3GPP Band	Downlink	Uplink	Max Band Width
600	71	617-652	663-698	35
700	12 & 13 & 14	728-768	698-716&776-798	40
800/850	26	862-894	817-849	32
1900(PCS)	25	1930-1995	1850-1915	65
EAWS	66	2110-2200	1710-1780	70
WCS	30	2350-2360	2305-2315	10
2500	41	2496-2690	2496-2690	194

Forward Path (Downlink)			
Bands	600 & 700 & 800/850	1900 & EAWS & WCS	B41
Output Power per Band	33 ± 2dBm	37 ± 2dBm	39 ± 2dBm
Maximum Gain	33 ± 3dB	37 ± 3dB	39 ± 3dB
Maximum Input Power	+15dBm (with AGC operating) / 0dBm (without AGC operating)		
EVM	<3.5% @ 256 QAM		
Manual Attenuation Control	35dB @ 1dB/step (A3: 20dB, M3RU-L: 15dB)		

Ripple removed

## Technical Specifications

### Reverse Path (Uplink)

Bands	600 & 700 & 800/850	1900 & EAWS & WCS	B41
Output Power per Band	-7 ± 2dBm	-13 ± 2dBm	-11 ± 2dBm
Maximum Gain	33 ± 3dB	37 ± 3dB	39 ± 3dB
Maximum Input Power	-25 dBm	-35 dBm	-35 dBm
Noise Figure	8dB@max Gain	6dB@max Gain	6dB@max Gain
Manual Gain Control	35dB @ 1dB/step (A3: 20dB, M3RU-L: 15dB)		
IIP3	-12dBm @ 600,700, 800/850 -22dBm @ 1900, EAWS, WCS, B41		

Ripple removed

### Interfaces

M3 Antenna Interface	1x 4.3-10 Female
M3 External C-band RF input port	1x 4.3-10 Female
M3 RF coupling port	1x QMA Female
A3 RF Interface	QMA Female
Optical Connector Type	SFP28, Standard LC
Optical Transmission Rate	24.33024 Gb/s
Optical Fibre Length	10km
Physical Alarms	RJ45 (2x in, 2x out)
Maintenance Interface	Ethernet RJ45

### Electrical

Complies with	3GPP TS36.106   3GPP TS25.106
EMC	EN 301489-1 / -50, FCC 47 CFR 1.1307(b), FCC 47 CFR 1.310
Safety	EN 62368-1
Maximum Power Consumption (A3/E3/M3RU-L)	85W / 65W / 240W
Power Supply	100-240V AC, 50/60Hz   48VDC ± 20%

### Environmental

Mean Time Between Failure (MTBF)	>220,000 hours
Operating Temperature (A3/E3)	-10°C to +50°C / 14°F to +122°F
Operating Temperature (M3RU-L)	-40°C to +55°C / -40°F to +131°F
Humidity	0% to 90% (Non-Condensing)
Cooling	Convection
Installation	A3/E3: Wall or 19" Rack   M3RU-L: Wall, Pole, 19" Rack
Ingress Protection Rating	A3/E3: IP30 (Indoor)

### Mechanical

A3 (Width / Height / Depth / Weight)	440mm / 88mm / 329mm / 8.0kg
E3 (Width / Height / Depth / Weight)	440mm / 44mm / 220mm / 5.0kg
M3RU-L (Width / Height / Depth / Weight)	450*mm / 128*mm / 300*mm / 16.0*kg

\* TBD