

MobileAccess2000

A Corning
MobileAccess
Solutions Product

features and benefits |

Multi-operator platform	Accommodates multiple operators seamlessly and transparently on one in-building network
Multi-service platform	Accommodates virtually any mix of wireless voice and data services, eliminating the need for separate overlay networks. Supported services and technologies include: GSM, CDMA, TDMA, iDEN, LMR, SMR, Paging, UMTS, DCS, EDGE, EV-DO, UHF/VHF, WMTS and more.
Modular design	With its modular packaging, the MA2000 enables new wireless services to be added easily and cost effectively without disruption to work spaces or existing services.
Scalable packaging	The MA2000 is available in two variants, the MA2000 MRC and the MA2000-Lite. Customers can expand from the MA2000-Lite to the MA2000 MRC while repurposing all components.
Operator-class operation	Advanced signal handling and management ensures optimal performance for all services involved in a multi-operator environment.
Robust management	Proactive, centralized end-to-end monitoring and management of MA2000 equipment and RF signals.
Reduce operating expenses	Multi-operator, multi-service across common infrastructure; supports multimode fiber.



MA2000 MRC | Figure 1

The MobileAccess2000 (MA2000) solution provides enterprise level indoor coverage for a wide range of wireless services over a single broadband infrastructure.

The MobileAccess2000 is a multi-operator, multi-service system based on combining a number of services, voice and data, and distributing them to each remote location through a common antenna infrastructure.

Wireless RF services are bi-directionally transmitted between the capacity source (BTS/BDA) and remote locations using low-loss fiber and broadband coax.

WLAN services from Wi-Fi Access Points (802.11a/b/g/n) can be integrated with the Wireless RF services at the remote locations for transport over a single cabling infrastructure to the antenna.

Two types of MobileAccess2000 deployment solutions are available:

- **MobileAccess2000-Lite** – Coverage solution for up to six cellular services.
- **MobileAccess2000 MRC (Modular Remote Cabinet)** – Coverage solution for greater than six cellular services.



MA2000-Lite | Figure 2

System Architecture

The MobileAccess2000 solution deployment is comprised of the following elements. For more detailed information, refer to the MobileAccess2000 User Manual.

Headend Equipment

Radio Interface Unit (RIU): The RIU conditions the RF Downlink signals from base-transceiver stations (BTS) or bi-directional amplifiers (BDA) provided by the Wireless Service Providers (WSPs), ensuring a constant level of RF before passing them on to the base units (BU). RF Uplink signals from subscribers are received from the BU and transported back to the BTS or BDA.

Base Unit (BU): The BU converts the RF Downlink signals received from the RIU to an optical signal for transport on single or multimode fiber to the Remote Hub Units (RHU) located at the remote locations. Uplink optical signals from subscribers are received from the RHU and converted back to RF before passing them on to the RIU.

System Controller: The system controller enables remote management and control of all MA2000 elements from a single location. Refer to the System Controller datasheet for more information.

Remote Location Equipment

MobileAccess2000-Lite: The MA2000-Lite is an entry level platform for deploying a multi-operator solution. It supports up to two RHUs, each with an Add-On, for a total of six services.

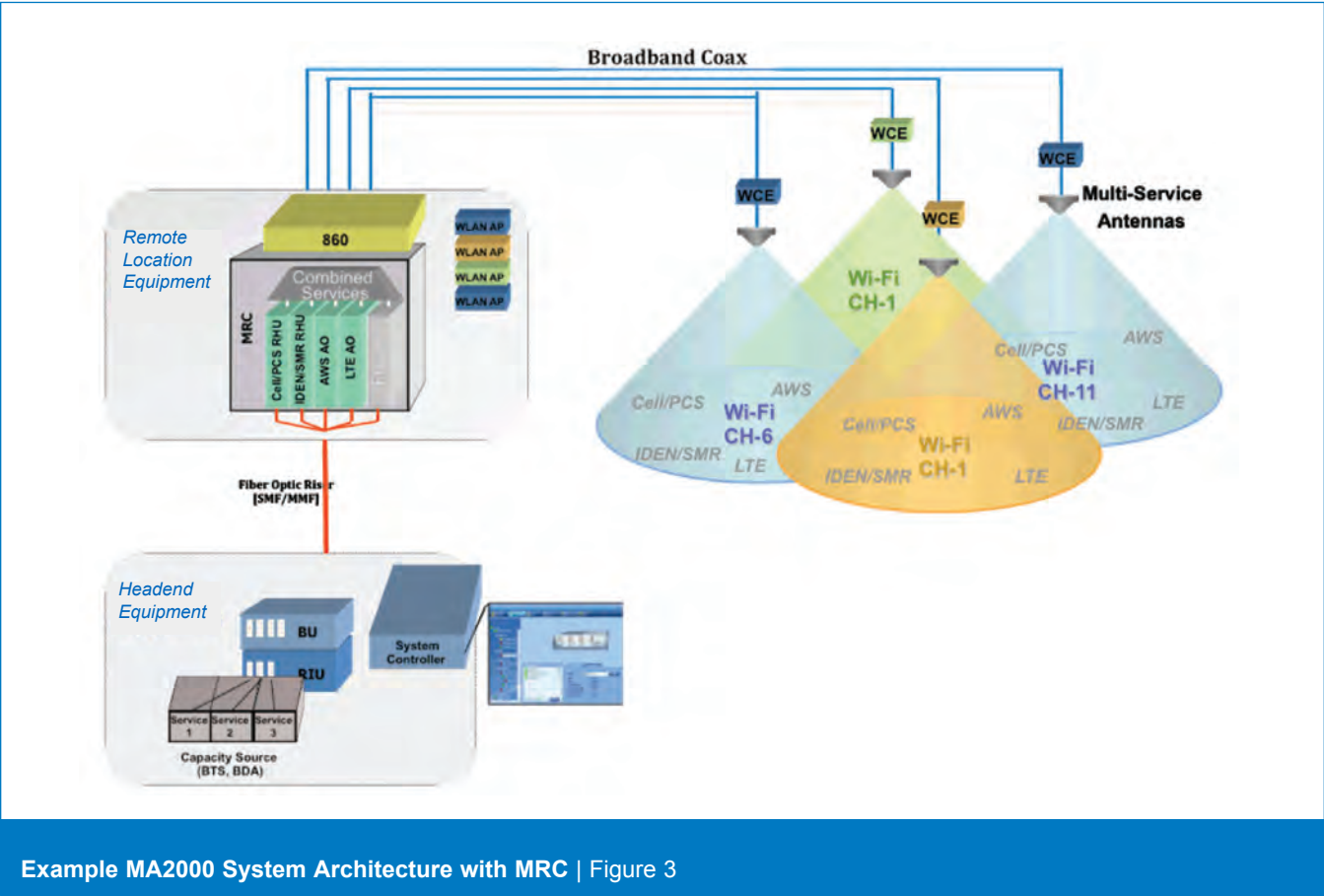
MobileAccess2000 Modular Remote Cabinet (MRC): The MRC is a cabinet capable of housing up to five RHUs (or two RHUs, each with an Add-On), power and appropriate filtration.

Remote Hub Unit (RHU): The RHU is a service specific module that performs optical to RF conversion on signals received from the BU. The signals are then filtered and amplified for transport across broadband coax to the antenna. Uplink signals from the antenna are then converted to optical signals before being transmitted back to the BU. Each RHU supports up to two services.

Add-On (AO): The Add-On is a single service unit that is coupled with an RHU to support an additional service. The Add-On receives filtered RF signal from the RHU and amplifies it for transport across the broadband coax.

860 WLAN Module (860): The 860 is mounted outside the MRC or MA2000-Lite. It combines WLAN and cellular signals for transport across the broadband coax. The 860 is used with Wireless Coverage Expanders (WCE). Refer to the 860 WLAN Solution datasheet for more information.

specifications |



Supported Services	Frequency Range (MHz)	
	Uplink (UL)	Downlink (DL)
Telstra 850M	824-849	869-890
AWS	1710-1755	2110-2155

specifications | (continued)

RF Parameters Per Service

MA2000 RHU Low Band Service RF Parameters

700/800 Public Safety		
RF Parameter	DL	UL
Frequency Range (MHz)	763-775 851-869	793-805 806-824
Max Output Power Per Antenna Port 1 (Composite)	14	
2 Carriers	11	
4 Carriers	8	
8 Carriers	5	
12 Carriers	2	
Mean Gain (dB) ¹	14	3
Pin (dBm) ¹	0	
Input IP3 (dBm) AGC OFF Min		-6
Input IP3 (dBm) AGC ON Min		6
SFDR ² (dB)		
Max Intermod Distortion (dBm)		
Max NF (dB)		20
Gain Flatness/Ripple (dB) ³	+/-2.0	

CELL TDMA/CDMA/WCDMA		
RF Parameter	DL	UL
Frequency Range (MHz)	869-894	824-849
Max Output Power Per Antenna Port 1 (Composite)	16	
2 Carriers	13	
4 Carriers	10	
8 Carriers	7	
12 Carriers	5	
Mean Gain (dB) ¹	16	7
Pin (dBm) ¹	0	
Input IP3 (dBm) AGC OFF Min		-5
Input IP3 (dBm) AGC ON Min		5
SFDR ² (dB)		71
Max Intermod Distortion (dBm)	-13*	
Max NF (dB)		20
Gain Flatness/Ripple (dB) ³	+/-2.0	

SMR 800		
RF Parameter	DL	UL
Frequency Range (MHz)	929-941	896-902
Max Output Power Per Antenna Port 1 (Composite)	14	
2 Carriers	11	
4 Carriers	8	
8 Carriers	5	
12 Carriers	3	
Mean Gain (dB) ¹	14	7
Pin (dBm) ¹	0	
Input IP3 (dBm) AGC OFF Min		-5
Input IP3 (dBm) AGC ON Min		5
SFDR ² (dB)		72
Max Intermod Distortion (dBm)	-13	
Max NF (dB)		20
Gain Flatness/Ripple (dB) ³	+/-2.0	

iDEN 800 Sprint		
RF Parameter	DL	UL
Frequency Range (MHz)	851-869	806-824
Max Output Power Per Antenna Port 1 (Composite)	10	
2 Carriers	7	
4 Carriers	4	
8 Carriers	1	
12 Carriers	-1	
Mean Gain (dB) ¹	10	7
Pin (dBm) ¹	0	
Input IP3 (dBm) AGC OFF Min		-5
Input IP3 (dBm) AGC ON Min		5
SFDR ² (dB)		72
Max Intermod Distortion (dBm)	-13	
Max NF (dB)		20
Gain Flatness/Ripple (dB) ³	+/-2.0	

* WCDMA complies with 3GPP TS 25.106 V5.0.0 (2002-03) table 9.4 spectrum emission mask.

¹Factory set mean gain BU-RHU without RIU. May be field adjusted using controller system.

²SFDR for CDMA services is calculated in 100 KB/sec.

³Gain Flatness/Ripple is specified for the non-duplexed port of the system.

specifications | (continued)

RF Parameters Per Service

MA2000 RHU Low Band Service RF Parameters

GSM/E-GSM			SMR 900		
RF Parameter	DL	UL	RF Parameter	DL	UL
Frequency Range (MHz)	935-960 925-960	890-915 880-915	Frequency Range (MHz)	929-941	896-902
Max Output Power Per Antenna Port 1 (Composite)	12		Max Output Power Per Antenna Port 1 (Composite)	14	
2 Carriers	9		2 Carriers	11	
4 Carriers	6		4 Carriers	8	
8 Carriers	3		8 Carriers	5	
12 Carriers	1		12 Carriers	3	
Mean Gain (dB) ¹	12	7	Mean Gain (dB) ¹	14	7
Pin (dBm) ¹	0		Pin (dBm) ¹	0	
Input IP3 (dBm) AGC OFF Min		-5	Input IP3 (dBm) AGC OFF Min		-5
Input IP3 (dBm) AGC ON Min		5	Input IP3 (dBm) AGC ON Min		5
SFDR ² (dB)		64	SFDR ² (dB)		71
Max Intermod Distortion (dBm)	36		Max Intermod Distortion (dBm)	-13	
Max NF (dB)		20	Max NF (dB)		20
Gain Flatness/Ripple (dB) ³	+/-2.0		Gain Flatness/Ripple (dB) ³	+/-2.0	

iDEN 900 Sprint		
RF Parameter	DL	UL
Frequency Range (MHz)	851-869	806-824
Max Output Power Per Antenna Port 1 (Composite)	10	
2 Carriers	7	
4 Carriers	4	
8 Carriers	1	
12 Carriers	-1	
Mean Gain (dB) ¹	10	7
Pin (dBm) ¹	0	
Input IP3 (dBm) AGC OFF Min		-5
Input IP3 (dBm) AGC ON Min		5
SFDR ² (dB)		71
Max Intermod Distortion (dBm)	-13	
Max NF (dB)		20
Gain Flatness/Ripple (dB) ³	+/-2.0	

* WCDMA complies with 3GPP TS 25.106 V5.0.0 (2002-03) table 9.4 spectrum emission mask.

¹Factory set mean gain BU-RHU without RIU. May be field adjusted using controller system.

²SFDR for CDMA services is calculated in 100 KB/sec.

³Gain Flatness/Ripple is specified for the non-duplexed port of the system.

specifications | (continued)

RF Parameters Per Service

MA2000 RHU High-Band Service RF Parameters

DCS			PCS ⁴ CDMA/WCDMA		
RF Parameter	DL	UL	RF Parameter	DL	UL
Frequency Range (MHz)	1805-1880	1710-1785	Frequency Range (MHz)	1930-1995	1850-1915
Max Output Power Per Antenna Port 1 (Composite)	14		Max Output Power Per Antenna Port 1 (Composite)	14	
2 Carriers	11		2 Carriers	11	
4 Carriers	8		4 Carriers	9	
8 Carriers	5		8 Carriers	6	
12 Carriers	3		12 Carriers	4	
Mean Gain (dB) ¹	14	3	Mean Gain (dB) ¹	14	3
Pin (dBm) ¹	0		Pin (dBm) ¹	0	
Input IP3 (dBm) AGC OFF Min		-6	Input IP3 (dBm) AGC OFF Min		-6
Input IP3 (dBm) AGC ON Min		3	Input IP3 (dBm) AGC ON Min		3
SFDR ² (dB)		64	SFDR ² (dB)		66
Max Intermod Distortion (dBm)	-30		Max Intermod Distortion (dBm)	-13*	
Max NF (dB)		20	Max NF (dB)		20
Gain Flatness/Ripple (dB) ³	+/-2.0		Gain Flatness/Ripple (dB) ³	+/-2.0	

PCS ⁴ GSM/TDMA			G-PCS ⁵ GSM/TDMA/CDMA/WCDMA		
RF Parameter	DL	UL	RF Parameter	DL	UL
Frequency Range (MHz)	1930-1995	1850-1915	Frequency Range (MHz)	1930-1995	1850-1915
Max Output Power Per Antenna Port 1 (Composite)	16		Max Output Power Per Antenna Port 1 (Composite)	20	
2 Carriers	13		2 Carriers	17	
4 Carriers	10		4 Carriers	14	
8 Carriers	7		8 Carriers	11	
12 Carriers	5		12 Carriers	9	
Mean Gain (dB) ¹	14	3	Mean Gain (dB) ¹	20	3
Pin (dBm) ¹	2		Pin (dBm) ¹	0	
Input IP3 (dBm) AGC OFF Min		-6	Input IP3 (dBm) AGC OFF Min		-6
Input IP3 (dBm) AGC ON Min		3	Input IP3 (dBm) AGC ON Min		3
SFDR ² (dB)		64	SFDR ² (dB)		64
Max Intermod Distortion (dBm)	-13		Max Intermod Distortion (dBm)	-13*	
Max NF (dB)		20	Max NF (dB)		18
Gain Flatness/Ripple (dB) ³	+/-2.0		Gain Flatness/Ripple (dB) ³	+/-2.0	

* WCDMA complies with 3GPP TS 25.106 V5.0.0 (2002-03) table 9.4 spectrum emission mask.

¹Factory set mean gain BU-RHU without RIU. May be field adjusted using controller system.

²SFDR for CDMA services is calculated in 100 KB/sec.

³Gain Flatness/Ripple is specified for the non-duplexed port of the system.

⁴Specifications for the older version of the Cell/PCS RHU (P/N 2000-CELL-PCSE(L) and 2000M-CELL-PCS(L).

⁵Specifications for the current Cell/PCS RHU (P/N 2000(M)-CELL-PCSH and 2000(M)-CELL-PCSH(L).

specifications | (continued)

RF Parameters Per Service

MA2000 RHU ADD-On RF Parameters

LTE 700 MHz		
RF Parameter	DL	UL
Frequency Range (MHz)	728-757	698-716 777-787
Max Output Power Per Antenna Port		
1 (Composite)	21	
2 Carriers	18	
4 Carriers	15	
8 Carriers		
12 Carriers		
Mean Gain (dB) ¹	21	3
Pin (dBm) ¹	0	
Max Intermod Distortion (dBm)	**	
Input IP3 (dBm)		-10
SFDR (dBm) ²		55
Max NF (dB)		20
Gain Flatness/Ripple (dB) ³	+/-1.0 ⁴	

G-PCS CDMA/WCDMA		
RF Parameter	DL	UL
Frequency Range (MHz)	1930-1995	1850-1915
Max Output Power Per Antenna Port		
1 (Composite)	20	
2 Carriers	17	
4 Carriers	14	
8 Carriers	11	
12 Carriers	9	
Mean Gain (dB) ¹	20	3
Pin (dBm) ¹	0	
Max Intermod Distortion (dBm)	-13*	
Input IP3 (dBm)		-7
SFDR (dBm) ²		66
Max NF (dB)		18
Gain Flatness/Ripple (dB) ³	+/-2.0	

G-PCS GSM/TDMA		
RF Parameter	DL	UL
Frequency Range (MHz)	1930-1995	1850-1915
Max Output Power Per Antenna Port		
1 (Composite)	21	
2 Carriers	18	
4 Carriers	15	
8 Carriers	12	
12 Carriers	10	
Mean Gain (dB) ¹	20	3
Pin (dBm) ¹	1	
Max Intermod Distortion (dBm)	-13	
Input IP3 (dBm)		-7
SFDR (dBm) ²		64
Max NF (dB)		18
Gain Flatness/Ripple (dB) ³	+/-2.0	

UMTS and AWS CDMA/WCDMA		
RF Parameter	DL	UL
Frequency Range (MHz)	2110-2170	1920-1980
Max Output Power Per Antenna Port		
1 (Composite)	21	
2 Carriers	18	
4 Carriers	15	
8 Carriers	12	
12 Carriers	10	
Mean Gain (dB) ¹	21	3
Pin (dBm) ¹	0	
Max Intermod Distortion (dBm)	*	
Input IP3 (dBm)		-7
SFDR (dBm) ²		66
Max NF (dB)		18
Gain Flatness/Ripple (dB) ³	+/-2.0	

* WCDMA complies with 3GPP TS 25.106 V5.0.0 (2002-03) table 9.4 spectrum emission mask.

** Out of band and spurious emissions compliant to FCC.

¹Factory set mean gain BU-RHU without RIU. May be field adjusted using controller system.

²SFDR for CDMA services is calculated in 100 KB/sec.

³Gain Flatness/Ripple is specified for the non-duplexed port of the system.

⁴Gain Flatness/Ripple at any block of the spectrum.

specifications | (continued)

Absolute Maximum Rating

Total Input RF Power to BU	10 dBm
Total Input RF Power to RHU	20 dBm out-of-band; -10 dBm in-band
Power Supply	60 VDC

Optical

Optical Output Power	< 3.0 mW
Maximum Optical Budget	2 dB for fiber + 1 dB for connectors (assumed) = 3 dB total. 300 m Multimode
Optical Loss per Mated-pair Connectors	0.5 dB (max)
Fiber Type	• Single-mode: 9/125 μm • Multimode: 50/125 μm or 62.5/125 μm (Minimum qualifications with ANSI/TIA/EIA-568-B series, EN50173-1 or ISO/IEC 11801)
Wavelength	1310 $\pm$ 10 nm
Maximum Distance Between Base Unit and Remote Cabinet	2 km

Temperature

- Operating: 0° to +50°C (32° to 122°F)
- Storage: -20° to 85°C (-4° to 185°F)

specifications | (continued)

Standards and Approvals

Laser Safety	• CDRH 21 CFR 1040.10, 1040.11 (except for deviations per notice No. 50, July 26, 2001) • IEC 60825-1, Amendment 2 (Jan 2001) • EN 60825-1
CE	
Radio Equipment and Systems	• EN 301 502 – for GSM/EGSM frequency bands • EN 300 609 – for DCS frequency band • EN 301 908 – for UMTS frequency band • EN 300 328 – for WLAN 802.11b/g 2.4 GHz frequency band • EN 301 893 – for WLAN 802.11a 5 GHz frequency band
EMC	EN 301 489
FCC	
Radio Equipment and Systems	FCC 47 CFR Part 2, 15, 22, 24, 27, 90
EMC	FCC 47 CFR Part 15 Subpart B
Safety	• EN 60950UL 60950 • CAN/CSA-C22.2 No.60950 • UL 2043

component specifications |

Modular Remote Cabinet (MRC)

Supported Units	Supports up to five RHUs or two RHUs, each with an Add-On
Ports	Four N-Type female coax connections to corresponding antenna
Power	• Local power: 230 VAC, 115 VAC (integrated AC/DC converter) • Remote power: 20 to 48 VDC to external connectors on chassis • Power consumption: 25 W
Physical Characteristics	• Mounting: Wall and rack mountable • Dimensions (H x W x D):cm (in) 35.5 x 48.26 x 39.7 (13.97 x 19 x 15.63) • Weight (with 4 RHUs): kg (lbs) ~35 (~77)



Modular Remote Cabinet (MRC) | Figure 4

MA2000-Lite

Supported Units	Supports up to two RHUs, each with an Add-On
Ports	To Broadband Coax: Four N-Type 50Ω connectors
Power	Power consumption: 3 W max (without RHU or Add-Ons)
Physical Characteristics	• Mounting: Wall mountable • Dimensions (H x W x D): cm (in) 44.2 x 33.6 x 8.64 (17.4 x 13.23 x 3.4) • Weight: kg (lbs) 5.5 (12.1)



MA2000-Lite | Figure 5

component specifications | (continued)

Remote Hub Unit

Supported Services	Two services per RHU. Refer to RHU model number for specific service support
Ports	• Optical port to BU: One SC/APC • To Add-On: Two SMA 50Ω connectors (one DL and one UL)
Power	• Input power: 20 to 48 V DC • Power consumption: 29 W
Physical Characteristics	• Dimensions (H x W x D): cm (in) 4.5 x 27.9 x 22.0 (1.75 x 10.98 x 8.66) • Weight: kg (lbs) 2.8 (6.2)



Add-On

Supported Services	Single service per Add-On. Refer to Add-On model number for specific service support
Ports	To RHU: Two SMA 50Ω connectors (one DL and one UL)
Input Power	Input power: 25 to 48V DC Power consumption: 50W
Physical Characteristics	• Dimensions (H x W x D): cm (in) 6.9 x 27.9 x 22.0 (2.71 x 10.98 x 8.66) • Weight: kg (lbs) 2.8 (6.2)



Multimode Fiber Qualifications |

50/125 or 62.5/125 μm complying with ANSI/TIA/EIA-568-B series, EN50173-1 or ISO/IEC 11801, may be used up to 300 m in length assuming the following qualifications:

- Both the Base Unit and Remote Hub Unit must be multimode capable.
- All fiber in a given length of fiber must be of the same core diameter.
- All bulkhead adapters must be Single-mode SC/APC (Green) adapters.
- All terminations, cross connections, or patches must be direct fusion splice or Corning MobileAccess specified patch cords listed below.

900 μm Patch Cord for splicing, 2 m, 2 x SC/APC		
62.5/125/900	Diamond p/n ENC/1045341	FiberNext p/n OEM-629002-MAN
50/125/900	Diamond p/n ENC/1045340	FiberNext p/n OEM-509002-MAN

Zipcord Patch Cord, 4 x SC/APC, 50/125/900/2000/4500 μm		
1 m	Diamond p/n ENC/1045342	FiberNext p/n OEM-50ZIP1-MAN
3 m	Diamond p/n ENC/1045343	FiberNext p/n OEM-50ZIP3-MAN

Zipcord Patch Cord, 4 x SC/APC, 62.5/125/900/2000/4500 μm		
1 m	Diamond p/n ENC/1045344	FiberNext p/n OEM-62ZIP1-MAN
3 m	Diamond p/n ENC/1045345	FiberNext p/n OEM-62ZIP3-MAN

ordering information |

Radio Interface Unit

Part Number	Description
RIU-IM	Radio Interface Unit, Support for 1-3 Conditioners
RIU-BTSC-700LTE	700 LTE Conditioner, 0 to +40 dBm Input Range
RIU-BTSC-PS700	Public Safety 700 MHz Conditioner, +10 to +36 dBm Input Range
RIU-BDAC-PS700	Public Safety 700 MHz Conditioner, -16 to +36 dBm Input Range
RIU-BTSC-CELL	Cellular Conditioner, +10 to +36 dBm Input Range
RIU-BDAC-CELL	Cellular Conditioner, -16 to +10 dBm Input Range
RIU-BTSC-IDEN	iDEN/SMR800 Conditioner, +10 to +36 dBm Input Range
RIU-BDAC-IDEN	iDEN/SMR800 Conditioner, -16 to +10 dBm Input Range
RIU-BTSC-PCS	PCS Conditioner, +10 to +36 dBm Input Range
RIU-BDAC-PCS	PCS Conditioner, -16 to +10 dBm Input Range
RIU-BTSC-G-PCS	PCS Conditioner w/ G-Block Support, +10 to +36 dBm Input Range
RIU-BDAC-G-PCS	PCS Conditioner w/ G-Block Support, -16 to +10 dBm Input Range
RIU-BTSC-SMR	SMR900/Paging Conditioner, +10 to +36 dBm Input Range
RIU-BDAC-SMR	SMR900/Paging Conditioner, -16 to +10 dBm Input Range
RIU-BTSC-GSM	GSM 900 MHz Conditioner, +10 to +36 dBm Input Range
RIU-BDAC-GSM	GSM 900 MHz Conditioner, -16 to +10 dBm Input Range
RIU-BTSC-GSM-O	GSM 900 MHz Conditioner for Orange, +10 to +36 dBm Input Range
RIU-BDAC-GSM-O	GSM 900 MHz Conditioner for Orange, -16 to +10 dBm Input Range
RIU-BTSC-DCS	DCS 1800 MHz Conditioner, +10 to +36 dBm Input Range
RIU-BDAC-DCS	DCS 1800 MHz Conditioner, -16 to +10 dBm Input Range
RIU-BTSC-UMTS	UMTS 2100 MHz Conditioner, +10 to +36 dBm Input Range
RIU-BTSC-AWS	AWS Conditioner, +10 to +36 dBm Input Range
RIU-BDAC-AWS	AWS Conditioner, -16 to +10 dBm Input Range

ordering information | (continued)

Radio Interface Unit

Part Number	Description
RIU-L-IDEN-SMR-G-PCS1	RIU Lite for iDEN 800, SMR 900, PCS1900 w/G-Block, Support 1BU8, -16 to +10 dBm Input Range
RIU-L-CELL-PCS1	RIU Lite Cellular 800, PCS 1900, -16 to +10 dBm Input Range

Base Units

Part Number	Description
WB-B8U	Wide-band Base-8 Unit Supporting (8) RHUs
WBM-B8U	Wide-band Base-8 Unit Supporting (8) RHUs over MMF
WB-B4U	Wide-band Base-4 Unit Supporting (4) RHUs
WBM-B4U	Wide-band Base-4 Unit Supporting (4) RHUs over MMF

MA200-Lite and MRC

Part Number	Description
2000-RC-RP	Modular Remote Cabinet - All Services, Remote Powering
2000-RC-LP	Modular Remote Cabinet - All Services, Local Powering
2000-MINI-ENC	MA2000-Lite Enclosure Supporting (2) RHUs

ordering information | (continued)

Remote Hub Units

Part Number	Description
MA2000 MRC Compatible RHUs	
2000-PS-700-800-CB	Dual-band Public Safety (700/800) for MA2000 MRC • Additional filter (IDEN-UL-FILTER) required if iDEN/SMR service is in same MA2000 MRC.
2000M-PS-700-800-CB	Dual-band Public Safety (700/800) for MA2000 MRC, Supporting MMF • Additional filter (IDEN-UL-FILTER) required if iDEN/SMR service is in same MA2000 MRC.
2000-CELL-DCSE	Dual-band Cell/DCS 1 Port for MA2000 MRC, Enhanced Power
2000-CELL-PCSE	Dual-band Cell/PCS 1 Port for MA2000 MRC, Enhanced Power
2000M-CELL-PCS	Dual-band-Cell/PCS, 1 Port, Supporting MMF
2000-CELL-PCSH	Dual-band Cell/PCS 1 Port for MA2000 MRC, 20 dBm Output Power, Support G-block
2000M-CELL-PCSH	Dual-band Cell/PCS 1 Port for MA2000 MRC, 20 dBm Output Power, Support G-block, Supporting MMF
2000-GSMO-DCSE	Dual-band GSM Orange/DCS 1 Port for MA2000 MRC, Enhanced Power
2000-IDEN-SMR	Dual-band iDEN/SMR-Page 1 Port for MA2000 MRC
2000M-IDEN-SMR	Dual-band iDEN/SMR-Page 1 Port for MA2000 MRC, Supporting MMF
2000-E-GSM-DCS	Dual-band EGSM/DCS 1 Port for MA2000 MRC
MA2000-Lite Compatible RHUs	
2000-PS-700-800-LT	Dual-band Public Safety (700/800) for MA2000-Lite • Additional filter (IDEN-UL-FILTER) required if iDEN/SMR service is in same MA2000-Lite.
2000M-PS-700-800-LT	Dual-band Public Safety (700/800) for MA2000-Lite, Supporting MMF • Additional filter (IDEN-UL-FILTER) required if iDEN/SMR service is in same MA2000-Lite.
2000-CELL-DCSEL	Dual-band CELL/DCS 1 Port for MA2000-Lite, Enhanced Power
2000-CELL-PCSEL	Dual-band CELL/PCS 1 Port for MA2000-Lite, Enhanced Power
2000M-CELL-PCSL	Dual-band CELL/PCS 1 Port for MA2000-Lite, Supporting MMF

ordering information | (continued)

Remote Hub Units

Part Number	Description
MA2000-Lite Compatible RHUs	
2000-CELL-PCSH-L	Dual-band CELL/PCS (1) Port for MA2000-Lite, 20 dBm Output Power, Support G-block
2000M-CELL-PCSH-L	Dual-band CELL/PCS (1) Port for MA2000-Lite, 20 dBm Output Power, Support G-block, Supporting MMF
2000-E-GSM-DCSL	Dual-band GSM/DCS (1) Port for MA2000-Lite, Enhanced Power
2000-GSMO-DCSEL	Dual-band GSM Orange/DCS (1) Port for MA2000-Lite, Enhanced Power
2000-IDEN-SMR-L	Dual-band iDEN /SMR-Page (1) for MA2000-Lite
2000M-IDEN-SMR-L	Dual-band iDEN /SMR-Page (1) for MA2000-Lite, Supporting MMF
2000-CELL-DCSLT	Dual-band CELL/DCS (1) Port for MA2000-Lite Enhanced Power for Telstra
2000-GSM-DCSLT	Dual-band GSM/DCS (1) Port for MA2000-Lite Enhanced Power for Telstra

Add-On

Part Number	Description
MA2000 MRC Compatible Add-On	
700LTE-AO-A-CB	Add-On for LTE 700 MHz service for the MA2000 MRC without Public Safety (700/800) coexistence. • Cannot coexist with Public Safety (700/800) service in same MA2000 MRC. • Can only be combined with 2000(M)-CELL-PCSE. • Additional filter (IDEN-UL-FILTER) required if iDEN/SMR service is in same MA2000 MRC.
700LTE-AO-A-CB-PSF	Add-On for LTE 700 MHz service for the MA2000 MRC with Public Safety (700/800) coexistence. • Can only be combined with 2000(M)-CELL-PCSE. • Additional filter (IDEN-UL-FILTER) required if iDEN/SMR service is in same MA2000 MRC.
700LTE-AO-B-CB	Add-On for LTE 700 MHz service for the MA2000 MRC without Public Safety (700/800) coexistence in same MA2000 MRC. • Cannot coexist with Public Safety (700/800) service in same MA2000 MRC. • Can only be combined with 2000(M)-CELL-PCSH. • Additional filter (IDEN-UL-FILTER) required if iDEN/SMR service is in same MA2000 MRC.

ordering information | (continued)

Add-On

Part Number	Description
MA2000 MRC Compatible Add-On	
700LTE-AO-B-CB-PSF	Add-On for LTE 700 MHz service for the MA2000 MRC with Public Safety (700/800) coexistence. • Can only be combined with 2000(M)-CELL-PCSH. • Additional filter (IDEN-UL-FILTER) required if iDEN/SMR service is in same MA2000 MRC.
1200-G-PCS-AO-CB	Add-On RHU - PCS w/G-block for the MA2000 MRC.
1200-UMTSE-AO-CB	Add-On RHU - UMTS service for the MA2000 MRC.
1200-AWS-AO-CB	Add-On RHU - AWS service for the MA2000 MRC.
MA2000-Lite Compatible Add-On	
700LTE-AO-A-LT	Add-On for LTE 700 MHz service for the MA2000-Lite without Public Safety (700/800) coexistence. • Cannot coexist with Public Safety (700/800) service in same MA2000-Lite. • Can only be combined with 2000-CELL-PCSEL or 2000M-CELL-PCSL. • Additional filter (IDEN-UL-FILTER) required if iDEN/SMR service is in same MA2000-Lite.
700LTE-AO-A-LT-PSF	Add-On for LTE 700 MHz service for the MA2000-Lite with Public Safety (700/800) coexistence. • Can only be combined with 2000-CELL-PCSEL or 2000M-CELL-PCSL. • Additional filter (IDEN-UL-FILTER) required if iDEN/SMR service is in same MA2000-Lite.
700LTE-AO-B-LT	Add-On for LTE 700 MHz service for the MA2000-Lite without Public Safety (700/800) coexistence. • Cannot coexist with Public Safety (700/800) service in same MA2000-Lite. • Can only be combined with 2000(M)-CELL-PCSH-L. • Additional filter (IDEN-UL-FILTER) required if iDEN/SMR service is in same MA2000-Lite.
700LTE-AO-B-LT-PSF	Add-On for LTE 700 MHz service for the MA2000-Lite with Public Safety (700/800) coexistence. • Can only be combined with 2000(M)-CELL-PCSH-L. • Additional filter (IDEN-UL-FILTER) required if iDEN/SMR service is in same MA2000-Lite.
1200-G-PCS-AO-LT	Add-On RHU - PCS with G-block service for the MA2000-Lite.
1200-UMTSE-AO-LT	Add-On RHU - UMTS service for the MA2000-Lite.
1200-AWS-AO-LT	Add-On RHU - AWS service for the MA2000-Lite.

ordering information | (continued)

Element Management Components

Part Number	Description
410	Network Controller with Serial Interface (Dial-up)
SC-450	System Controller
NMS-SW-SERVER	GUI and Server S/W Package (One per Site)
NMS-SW-MFEE	NMS Annual S/W Maintenance Fee (One per 430 Controller)

Accessories

Part Number	Description
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Optional Filters

IDEN-UL-FILTER	In-line Filter for the iDEN/SMR RHU uplink path when iDEN/SMR service coexists with 700LTE or 700/800 Public Safety service within the same MA2000 MRC or MA2000-Lite.
700LTE-PS-FILTER	Cavity Filter for the 700LTE Add-On when 700LTE service coexists with 700/800 Public Safety service in the same MA2000 MRC or MA2000-Lite. This filter is already included with the 700LTE Add-On part numbers with a "-PSF" suffix.

Power Supply

LPS-48V-66W	Local AC/DC Converter 66 W
LPS-48V-100W	Local AC/DC Converter 100 W
AK-PWR-CORD-EU	AC Power Cord for 66W and 100 W Power Supplies, European Connector
AK-PWR-CORD-UK	AC Power Cord for 66W and 100 W Power Supplies, UK Connector

Mounting Brackets

BRKT-1200-STK	Bracket for stacking RHU/Add-On/860 module on top of an Add-On module
BRKT-1RU-SHELF-2K	Shelf for RHU/Add-On/860 or bracket for stacking on MA2000 MRC
BRKT-RHU-800-STK	Bracket for stacking RHU/Add-On/860 module on top of a RHU/860 module (not on top of an Add-On)

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