

FIBER DAS SYSTEM

50 - 2700 MHz • Class B

MOU Series

xRHU Series

Product Features

- IF SAW filtering, sharp filtering response, outstanding out of band rejection
- Broadband design, 50 - 2700 MHz
- Single fiber connection
- Automatic Fiber Link Adjustment
- User adjustable gain control, UL and DL independent
- Automatic Gain Control, UL and DL independent
- Battery backup ready
- WiFi integration



Remote Head Unit (RHU)



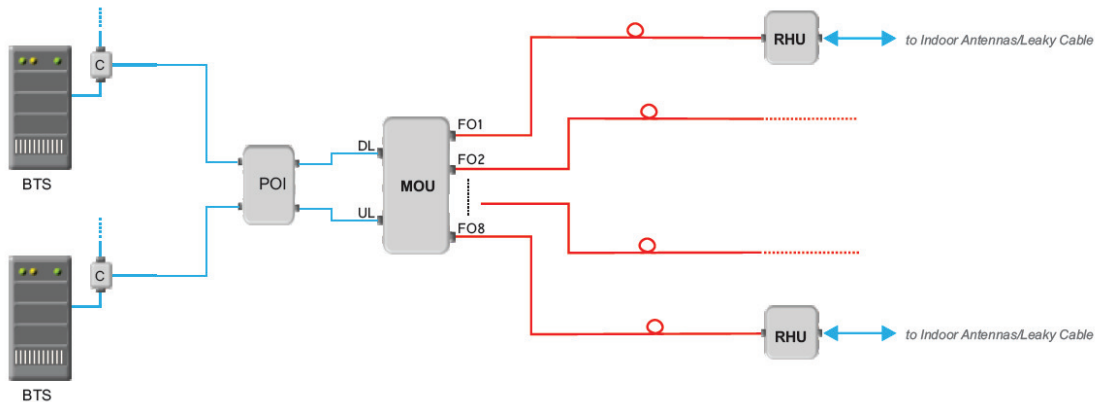
Master Optical Unit (MOU)

Applications

- Indoor: tunnels, buildings, subways, airports, among others
- Outdoor: stadiums, canyons, dense urban areas, remote rural towns



Typical application, single MOU with four RHUs working with two BTSs



Specifications

	Value
Fiber Optic	Single mode
WDM?	Yes, one fiber for MOU and RHU connection
Optical wavelengths	1310 / 1550 nM
Optical link BW	50 - 2700MH z min
Maximum fiber loss	10 dBo
Maximum MOU - RHU relation	1 - 8

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 Fiplex is a registered trademark of Fiplex Communications, Inc.
 Fiplex Communications, Inc. reserves the right to change specifications without prior notice.

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MOU Electrical and Mechanical Specifications

	Value
Optical power	0dBm min
Optical return loss	>45dB
Number of RF ports	1 for UL and 1 for D L
RF ports return loss	>20dB
Maximum DL input power for maximum RHU output power	+18dBm
Minimum DL input power for maximum RHU output power	0dBm
UL Gain	20dB min
UL Gain ripple	+/- 2dB within the working BW
DL manual attenuator	20dB in 1dB steps per optical input, and 40dB in 1dB steps for complete DL band
Maximum UL output power	0dBm
UL manual attenuator	20dB in 1dB steps per optical input, and 40dB in 1dB steps for complete UL band
RF connectors	N(f)
Optical connectors	SC/APC
Delay	<500nS
AC Power	110/220 VAC 50/60Hz
DC Power	12VDC
Housing	IP21 (for 19" standard rack)
Environmental	EN 300 019 3.2
Temperature range	-4° to 113° F • -20° to +45°C
Humidity	<95% non condensing
Dimension	19in x 15.7in x 3RU • 483mm x 400mm x 3RU
MTBF	>100,000 hours
Standards	ITU T G 652 EN60825-1

RHU Electrical and Mechanical Specifications

	Value
Number of optical ports	1 for MOU connection
Optical power	0dBm min
Optical return loss	>45dB
Number of RF ports	1 for service antenna, per band
RF port return loss	>20dB
Gain	50dB min
UL maximum input power	-3dB
UL noise reduction	UL detector that activates UL chain when UL signals present
Band pass ripple	+/- 1.5dB
Manual attenuator	50dB in 1dB steps
AGC range, UL and DL	45dB min
RF connectors	N(f)
Optical connectors	SC/APC
Spurious	<-36dBm (9KHz to 1GHz) and <-30dBm (1GHz to 12.75GHz)
Noise figure	<6dB
Group delay	6uS max

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RHU Electrical and Mechanical Specifications	Value
AC Power	110/220 VAC 50/60Hz
DC Power	27VDC
Housing	IP65
Environmental	EN 300 019 4.1
Temperature range	+23° to +131° F • -5° to +55° C
Humidity	<95% non condensing
Dimension	15.3 x 15.3 x 8.7 inches • 390 x 390 x 220 mm
MTBF	>100,000 hours
Security	Lock for door opening

Control and Alarms	Value
Alarms report	Via MOU Local: USB and Open Contacts (POWER STATUS, MOU STATUS, RHU STATUS) Remote: SNMP (Ethernet)
Configuration	Via MOU Local: USB Remote: SNMP (Ethernet)
Remote Configuration	Via MOU Local: USB Remote: SNMP (Ethernet)

Normative	Value
Standards	ITU T G 652 EN60825-1
FCC	FCC, CFR 47, Part 15, Subpart B, Class A digital devices FCC, CFR 47, Part 90, Subpart I
ETSI	TS 101 789-1 EN 6100-4-8 ETS 300 827 EN 50081-2 EN 50082-2 EN 301 489-1 EN 301 489-18

MOU Models	Number of Optical Ports
MOU11	1
MOU12	2
MOU13	3
MOU14	4
MOU15	5
MOU16	6
MOU17	7
MOU18	8

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RHU Models	Band	DL power output, in dBm
HRHU-1	136 - 174MHz z	+40
LRHU-3	380 – 520MHz z (factory adjusted to specific frequencies)	+18
LRHU-4	380 – 520MHz z (factory adjusted to specific frequencies)	+24
HRHU-3	380 – 520MHz z (factory adjusted to specific frequencies)	+32
HRHU-4	380 – 520MHz z (factory adjusted to specific frequencies)	+36
LRHU-6	LTE 700MHz A, B	+20
MRHU-6	LTE 700MHz A, B	+27
LRHU-L	LTE 700MHz C	+20
MRHU-L	LTE 700MHz C	+30
LRHU-7	764 – 806MHz z (Public Safety 700)	+20
MRHU-7	764 – 806MHz z (Public Safety 700)	+30
HRHU-7	764 – 806MHz z (Public Safety 700)	+37
LRHU-S	806 – 869MHz (SMR 800)	+20
MRHU-S	806 – 869MHz (SMR 800)	+30
HRHU-S	806 – 869MHz (SMR 800)	+37
LRHU-8	LTE 800MHz	+20
MRHU-8	LTE 800MHz	+30
HRHU-8	LTE 800MHz	+37
LRHU-C	824 – 894MHz (Cellular 850)	+20
MRHU-C	824 – 894MHz (Cellular 850)	+30
HRHU-C	824 – 894MHz (Cellular 850)	+37
LRHU-R	GSM-R	+18
HRHU-R	GSM-R	+32
LRHU-E	880 – 960MHz (EGSM 900)	+18
MRHU-E	880 – 960MHz (EGSM 900)	+27
HRHU-E	880 – 960MHz (EGSM 900)	+37
LRHU-D	1710 – 1880MHz (DCS)	+18
MRHU-D	1710 – 1880MHz (DCS)	+27
HRHU-D	1710 – 1880MHz (DCS)	+37
LRHU-P	1850 – 1990MHz z (PCS)	+20
MRHU-P	1850 – 1990MHz z (PCS)	+30
HRHU-P	1850 – 1990MHz z (PCS)	+37
LRHU-U	1920 – 2170MHz (UMTS)	+20
HRHU-U	1920 – 2170MHz (UMTS)	+35
LRHU-A	1710 – 2155MHz (AWS)	+20
HRHU-A	1710 – 2155MHz (AWS)	+35
LRHU-2	LTE 2.6GH z	+18
MRHU-2	LTE 2.6GH z	+27
MRHU-4S	380 – 520MHz z (factory adjusted to specific frequencies) & 806 – 869MHz (SMR 800)	+20 / +30
HRHU-4S	380 – 520MHz z (factory adjusted to specific frequencies) & 806 – 869MHz (SMR 800)	+30 / +37
MRHU-7S	764 – 806MHz (Public Safety 700) & 806 – 869MHz (SMR 800)	+27 / +27

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RHU Models	Band	DL power output, in dBm
LRHU-CP	824 – 894MHz (Cellular 850) & 1850 – 1990MHz (PCS)	+17 / +17
MRHU-CP	824 – 894MHz (Cellular 850) & 1850 – 1990MHz (PCS)	+27 / +25
HRHU-CP	824 – 894MHz (Cellular 850) & 1850 – 1990MHz (PCS)	+34 / +34
LRHU-ED	880 – 960MHz (EGSM 900) & 1710 – 1880MHz (DCS)	+18 / +18
MRHU-ED	880 – 960MHz (EGSM 900) & 1710 – 1880MHz (DCS)	+27 / +27
HRHU-ED	880 – 960MHz (EGSM 900) & 1710 – 1880MHz (DCS)	+37 / +37

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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.

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