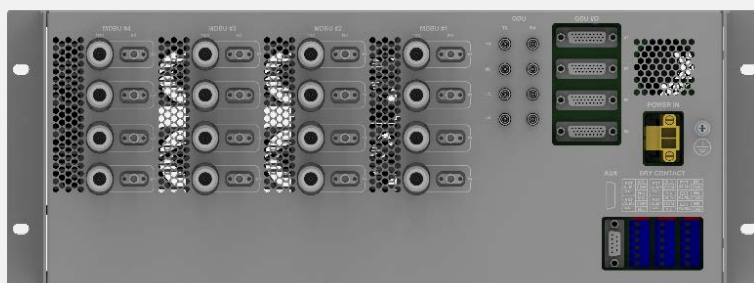
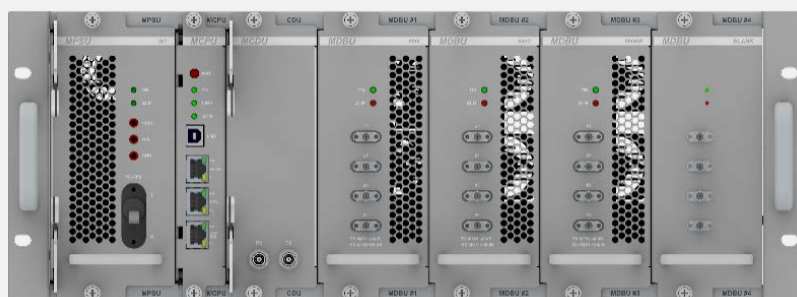




ALLIANCE-TR Multi-Operator DAS BTS Interface Unit (BIU) Product Specifications / Parts List

SOLiD ALLIANCE™ TR



ALLIANCE-TR is SOLiD's multi-operator, neutral host Distributed Antenna System (DAS) that efficiently delivers wireless RF signals into any indoor or outdoor location difficult to cover with traditional macro networks.

In ALLIANCE-TR, the Base Station Interface Unit (BIU) is the central input point for all source signals sent and received over the DAS.

- Multiple frequencies in a single unit
- RF power control guarantees power to each operator as configured in management software.
- Plug-in components - add additional operators without the need for additional architecture
- Advanced filtering capabilities. 4G Certified. MIMO capable

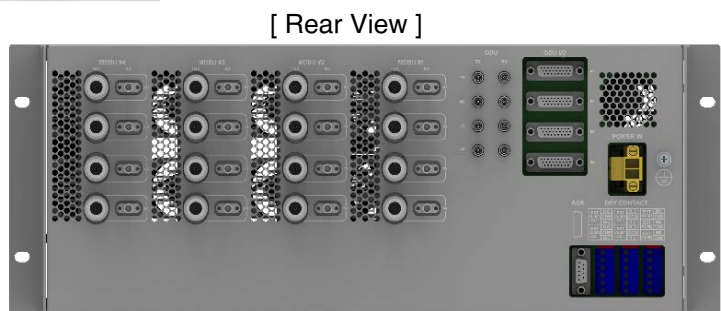
Description

The BIU is the central input point (i.e. head end) for all signals delivered over the ALLIANCE-TR DAS. In the BIU, each signal input is independently filtered, attenuated and controlled. The BIU's modular architecture enables the operator to easily expand service bands by adding hot swappable slide-in MDBU (Main Drive BTS Unit) modules.

Up to four bands can be serviced in a single BIU and four-band MIMO can also be supported by using a dual (master/slave) BIU configuration. An optional slide-in unit provides spectrum monitoring. Internal attenuators allow a maximum of 20W direct input from base stations without the need for external attenuation through a Point of Interface (POI) device or DAS tray.

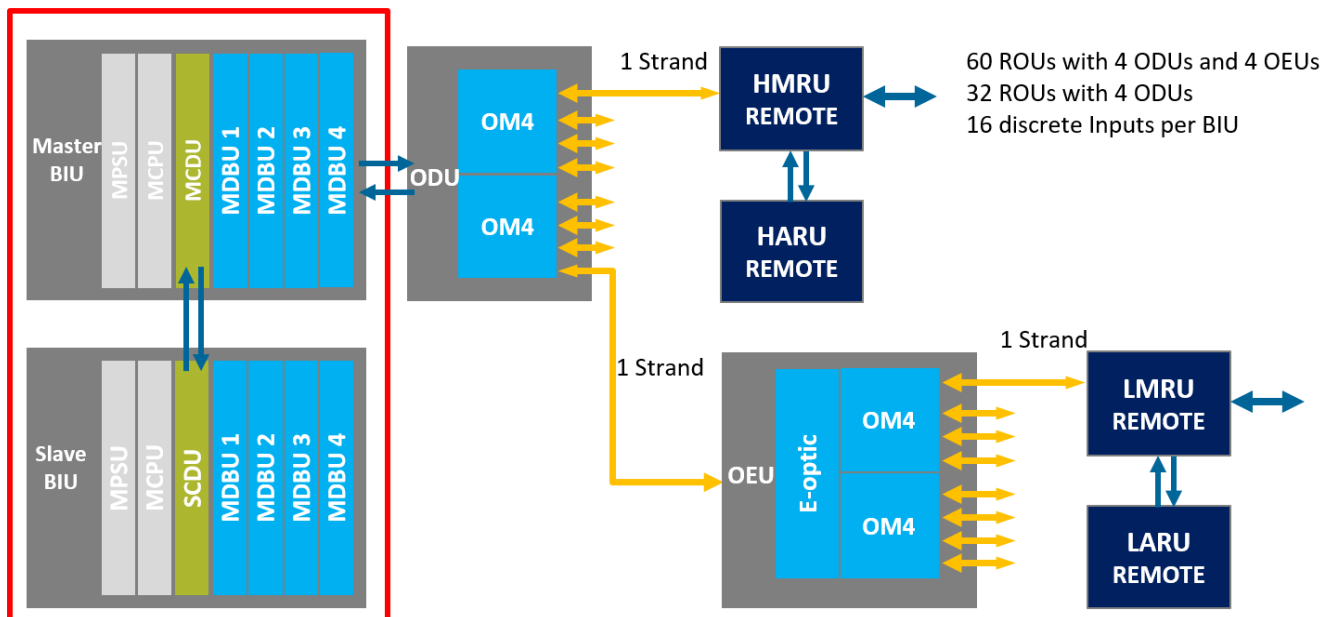


[Front View]

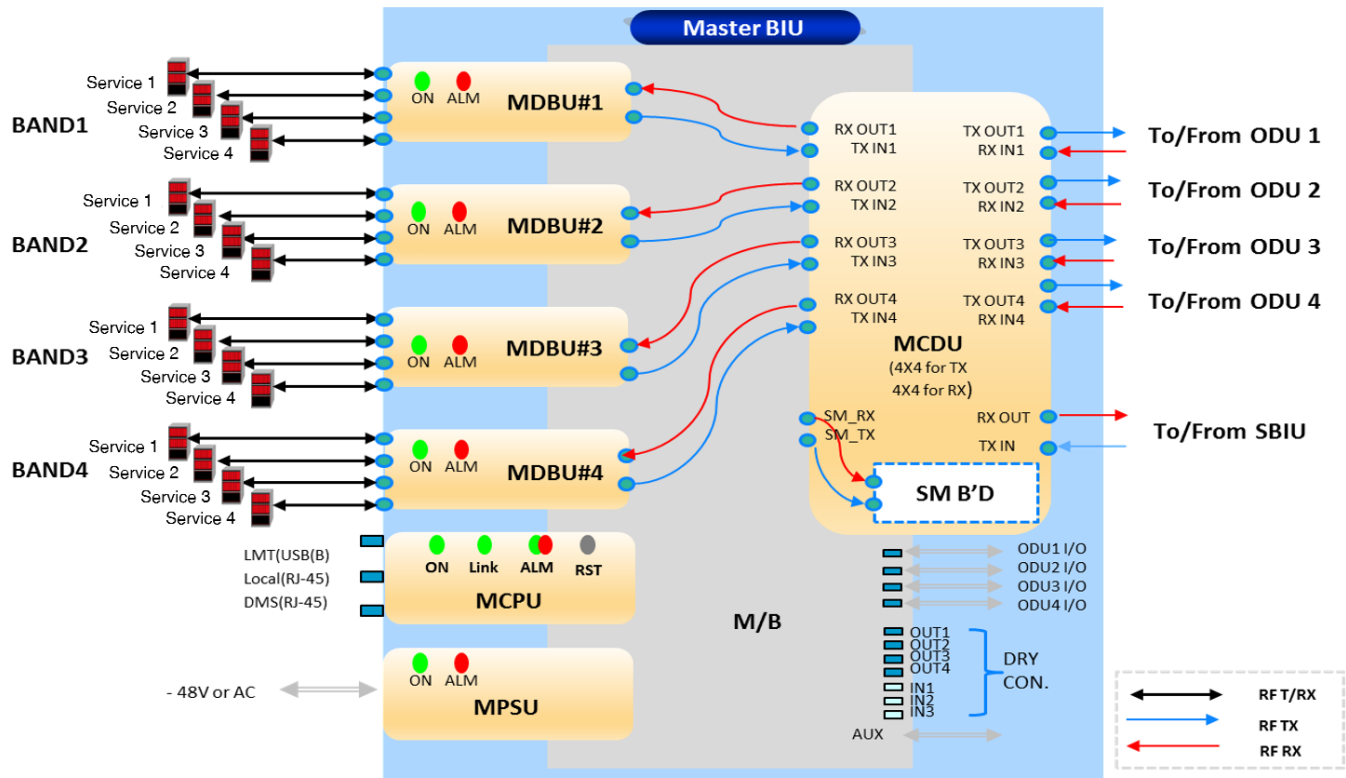


[Rear View]

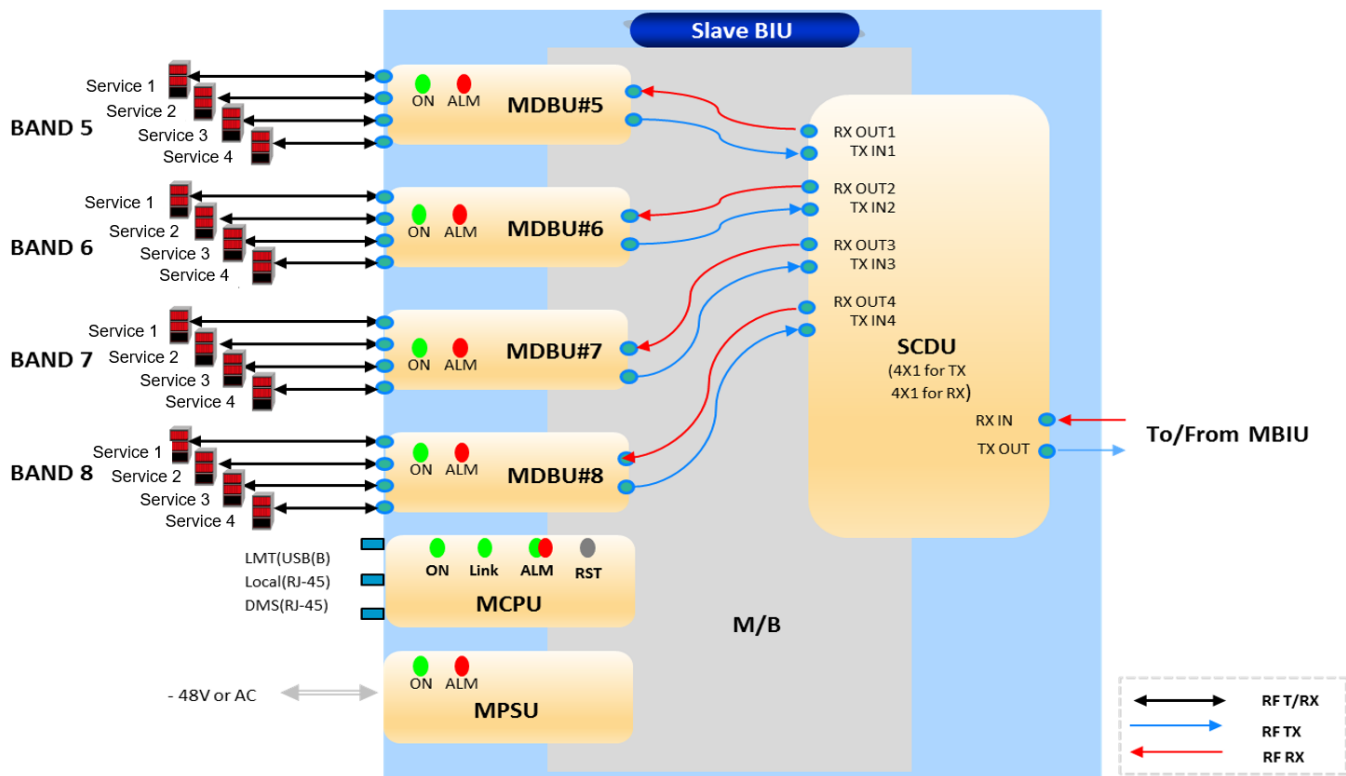
System Configuration



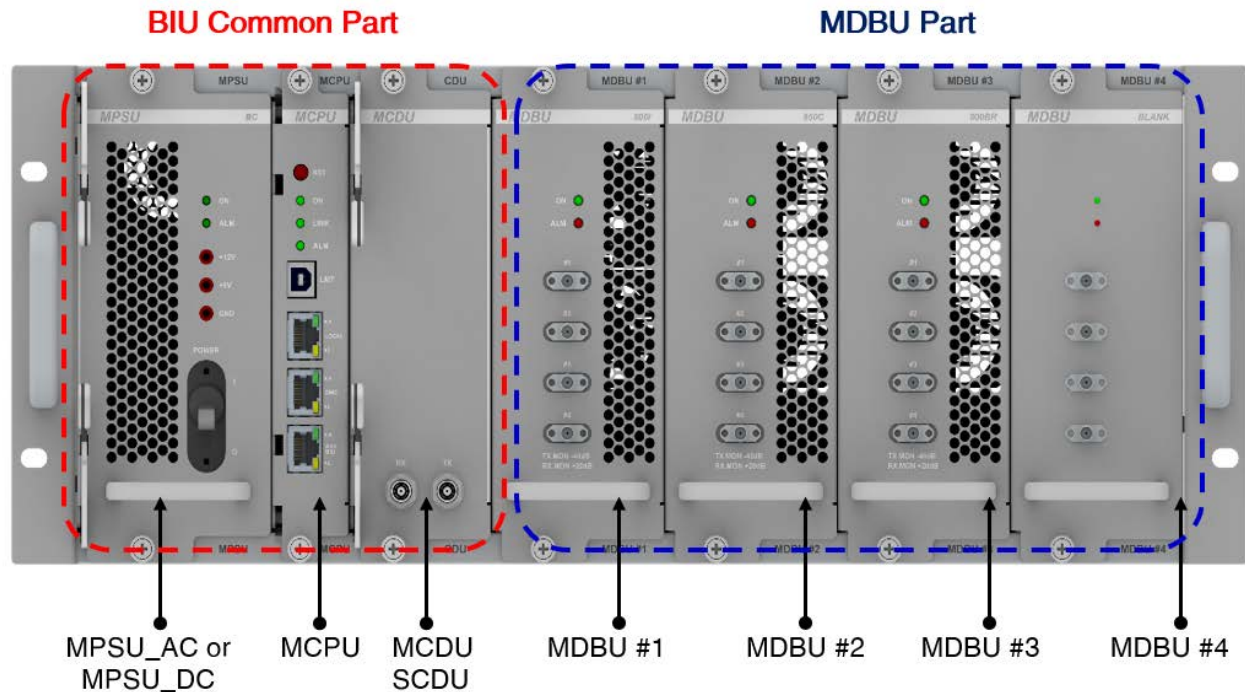
Functional Block Diagram (Master BIU)



Functional Block Diagram (Slave BIU)



Parts Description



Part	Sub-Unit	Description	Remarks
BIU Common Part	M/CPU	Main Central Processor Unit Controls and monitors system status Provides one USB (B type) and three Ethernet ports to connect to management systems like the DMS-2000	
	MPSU	Main Power Supply Unit AC Input power: AC 110/220V, Output power: 12V, 6V DC Input power: DC -48V, Output power: 12V, 6V	AC or DC Option
	M/B	Mother Board Provides signal interface and power for each unit Provides four ports for dry contact output Provides three ports for input alarms	
	MCDU	Main Combiner/Divider Unit Combines up to 4 downlink signals and divides signal to ODU Combines up to 4 uplink signals and divides signal to MDBU Supports add-on SCU	Master BIU only
	SCDU	Slave Combiner/Divider Unit Combines up to four downlink signals to one port Divides one signal to four uplink signals	Slave BIU only
	Chassis	19 inch, 4U	
MDBU xxxx		Main Drive BTS Unit Amplifies and adjusts downlink and uplink RF signals	Max 4 per BIU
MDBU_BLK		MDBU blank card for port termination	

Accessories

The following items ship with the unit.

Item	Description	Remarks
BIU DC -48 Power cable	BIU DC -48V Power cable, 2 meter (1 pair) [Terminal Block Connector (20020517M021B01LF, by FCI) at one end, AWG #12 Wire at other end]	Qty 1
SBIU RF Cable	0.5m, MBIU to SBIU T/Rx RF Cable (SMBL Male to SMBL Male) For adding slave BIU	Qty 2
SBIU Signal Interface Cable	0.5m, MBIU to SBIU Signal Interface Cable [RJ-45 to RJ-45, LAN Cable (Category6)] For adding slave BIU	Qty 1
MDBU SQN Adapters	N(M) to SQN(F) ADAPTER and SQN(M) to N(F) ADAPTER For connecting RF input cables with N-type input port. Usage: Connect “N(M) to SQN(F)” adapter to input port at BIU. Then connect RF cable to “SQN(M) to N(F) adapter Push in “SQN(M) to N(F)” adapter with RF cable installed to N(M) to SQN(F) adapter.	4 Sets incl with each MDBU
Ground Connection	M4 Screw. SOLiD recommends using a ground cable AWG #10 ~ 12 with lugged end. Ground cable does not ship with unit.	Qty 1



BIU DC -48 Power Cable



SBIU Signal interface Cable



SBIU RF Cable



N(M) to SQN(F) ADAPTER

SQN(M) to N(F) ADAPTER

MDBU SQN

Specifications

General Data

Category		Specification
Downlink Input Power		+23 ~ +43dBm each port
Uplink Output Power		-60 ~ -40dBm
Nominal Impedance		50 ohm
Power Supply Range	AC	AC 110/220V (AC: 110 – 240V)
	DC	DC -48V (DC: -42V ~ -56V)
VSWR		1.5:1 at all in and out ports
Monitoring level at MDBU		TX: -40dB, RX: +20dB
Mounting Type		19" Rack Mounting. 4U height
Input and Output Port Type		TRX Port: N-type (Female) RX Port: SMA-type (Female)
Front Panel LED Indicator	MDBU	Power on: Green, Alarm: Red
	MCPU	Power on: Green, Alarm: Red LINK: Green flickering (Communication Status)
	MPSU	Power on: Green, Alarm: Red
Maximum Power Consumption	Master BIU	210W with 4 ODUs and 4 MDBUs powered
	Slave BIU	90W with 4 MDBUs powered
Total Max Weight	Master BIU	Approx. 23kg (at full load with 4 MDBUs)
	Slave BIU	Approx. 23kg (at full load with 4 MDBUs)

Environmental Data

Category	Specification
Environmental Condition	In-building use (BIU is designed to be installed in the equipment room.)
Operating Temperature (°C)	+5° ~ +50°C

Regulatory Conformity at System Level

Category	Specification
Type Approval & Certification	EN60950-1
EMC	EN 301 489-01 EN 301-489-8 EN 301-489-23

Electrical Data

Unit	Downlink (Tx)		Uplink (Rx)		Modulation
	Frequency (MHz)	Bandwidth (MHz)	Frequency (MHz)	Bandwidth (MHz)	
MDBU_800I	851 - 866	15	806 - 821	15	IDEN
MDBU_850C	869 - 894	25	824 - 849	25	GSM, EDGE, UMTS, LTE
MDBU_900	925 - 960	35	880 - 915	35	GSM, EDGE, LTE
MDBU_1800	1805 - 1880	75	1710 - 1785	75	GSM, EDGE, LTE,
MDBU_1800_B	1805 - 1880	75	1710 - 1785	75	
MDBU_U2100	2110 - 2170	60	1920 - 1980	60	UMTS, LTE
MDBU_U2100_B	2110 - 2170	60	1920 - 1980	60	UMTS, LTE
MDBU_L2600F	2620 - 2690	70	2500 - 2570	70	LTE(FDD)
MDBU_L2600F_B	2620 - 2690	70	2500 - 2570	70	
MDBU_1900P	1930 - 1995	60	1850 - 1915	60	GSM, UMTS
MDBU_L700A	758 - 803	45	703 - 748	45	LTE
MDBU_L700A_B	758 - 803	45	703 - 748	45	
MDBU_L700	728 - 756	28	699 - 716 777 - 787	28	LTE
MDBU_L700_B	728 - 756	28	699 - 716 777 - 787	28	
MDBU_L800	791 - 821	30	832 - 862	30	LTE
MDBU_L800_B	791 - 821	30	832 - 862	30	
MDBU_L2300T	2300 - 2400	100	2300 - 2400	100	LTE(TDD)
MDBU_L2300T_B	2300 - 2400	100	2300 - 2400	100	
MDBU_L2600T	2570 - 2620	50	2570 - 2620	50	LTE(TDD)
MDBU_L2600T_B	2570 - 2620	50	2570 - 2620	50	
MDBU_AWS13	2110 - 2180	70	1710 - 1780	70	UMTS, LTE
MDBU_AWS13_B	2110 - 2180	70	1710 - 1780	70	

*.Grayed color module indicates future availability

Power Consumption, Weight, Volume, MTBF

Unit	Power Consumption (W)	Weight (kg)	Dimension (mm)	MTBF (Year)
BIU Chassis				
MBIU_C_AC	11	5.37	482.6(19") x 177(4U) x 345.6	36
SBIU_C_AC	10	5.37	482.6(19") x 177(4U) x 345.6	38
MBIU_C_DC	11	5.37	482.6(19") x 177(4U) x 345.6	38
SBIU_C_DC	10	5.37	482.6(19") x 177(4U) x 345.6	40
MBIU_C_AC_SM	30	6.17	482.6(19") x 177(4U) x 345.6	36
MBIU_C_DC_SM	30	6.17	482.6(19") x 177(4U) x 345.6	36
Main Drive BTS Units (MDBU)				
MDBU_800I	20	3.28	67 x 175 x 363.8	50
MDBU_850C	20	3.28	67 x 175 x 363.8	50
MDBU_900	20	3.28	67 x 175 x 363.8	58
MDBU_1800	20	3.28	67 x 175 x 363.8	50
MDBU_1800_B	20	3.28	67 x 175 x 363.8	50
MDBU_U2100	20	3.28	67 x 175 x 363.8	50
MDBU_U2100_B	20	3.28	67 x 175 x 363.8	50
MDBU_L2600F	20	3.28	67 x 175 x 363.8	50
MDBU_L2600F_B	20	3.28	67 x 175 x 363.8	50
MDBU_1900P	20	3.28	67 x 175 x 363.8	50
MDBU_L700A	20	3.28	67 x 175 x 363.8	50
MDBU_L700A_B	20	3.28	67 x 175 x 363.8	TBD
MDBU_L700	20	3.28	67 x 175 x 363.8	50
MDBU_L700_B	20	3.28	67 x 175 x 363.8	TBD
MDBU_L800	20	3.28	67 x 175 x 363.8	50
MDBU_L800_B	20	3.28	67 x 175 x 363.8	50
MDBU_L2300T	20	3.28	67 x 175 x 363.8	50
MDBU_L2300T_B	20	3.28	67 x 175 x 363.8	50
MDBU_L2600T	TBD	TBD	TBD	TBD
MDBU_L2600T_B	TBD	TBD	TBD	TBD
MDBU_AWS13	20	3.28	67 x 175 x 363.8	50
MDBU_AWS13_B	20	3.28	67 x 175 x 363.8	50
Common Part Spare Units				
MCPU	5	0.34	30 x 175 x 309.9	69
MPSU_AC	-	2.16	75.6 x 175 x 318.3	86
MPSU_DC	-	2.16	75.6 x 175 x 318.3	100
MCDU	4	1.44	55 x 175 x 311.1	567
MCDU_SM	24	2.34	55 x 175 x 311.1	92
SCDU	-	1.44	55 x 175 x 311.1	7927
MDBU_BLK	-	0.24	67 x 175 x 318.2	-

*.Grayed color module indicates future availability

Ordering Information

BTS Interface Unit (BIU)

Part Name	Order Description
TR_MBIU_C_AC	ALLIANCE-TR Master Base Station Interface Unit Chassis- AC (Includes AC PSU, MCPU Card, MCDU Card)
TR_SBIU_C_AC	ALLIANCE-TR Slave Base Station Interface Unit Chassis- AC (Includes AC PSU, MCPU Card, SCDU Card)
TR_MBIU_C_DC	ALLIANCE-TR Master Base Station Interface Unit Chassis- DC (Includes DC PSU, MCPU Card, MCDU Card)
TR_SBIU_C_DC	ALLIANCE-TR Slave Base Station Interface Unit Chassis- DC (Includes AC PSU, MCPU Card, SCDU Card)
TR_MBIU_C_AC_SM	ALLIANCE-TR Master Base Station Interface Unit Chassis- AC (Includes AC PSU, MCPU Card, MCDU Card, Spectrum Monitoring Module)
TR_MBIU_C_DC_SM	ALLIANCE-TR Master Base Station Interface Unit Chassis- AC (Includes AC PSU, MCPU Card, MCDU Card, Spectrum Monitoring Module)

Main Drive BTS Unit (MDBU)

Part Name	Order Description
TR_MDBU_800I	ALLIANCE-TR MDBU unit for 800 IDEN
TR_MDBU_850C	ALLIANCE-TR MDBU unit for 850 Cellular
TR_MDBU_900	ALLIANCE-TR MDBU unit for GSM 900
TR_MDBU_1800	ALLIANCE-TR MDBU unit for GSM 1800 & LTE 1800
TR_MDBU_1800_B	ALLIANCE-TR MDBU unit for GSM & LTE 1800 MIMO path
TR_MDBU_U2100	ALLIANCE-TR MDBU unit for UMTS 2100
TR_MDBU_U2100_B	ALLIANCE-TR MDBU unit for UMTS 2100 MIMO path
TR_MDBU_L2600F	ALLIANCE-TR MDBU unit for LTE 2600 FDD
TR_MDBU_L2600F_B	ALLIANCE-TR MDBU unit for LTE 2600 FDD MIMO path
TR_MDBU_1900P	ALLIANCE-TR MDBU unit for 1900 PCS
TR_MDBU_L700A	ALLIANCE-TR MDBU unit for LTE700 APT
TR_MDBU_L700A_B	ALLIANCE-TR MDBU unit for LTE700 APT MIMO path
TR_MDBU_L700	ALLIANCE-TR MDBU unit for LTE700
TR_MDBU_L700_B	ALLIANCE-TR MDBU unit for LTE700 MIMO path
TR_MDBU_L800	ALLIANCE-TR MDBU unit for LTE800
TR_MDBU_L800_B	ALLIANCE-TR MDBU unit for LTE800 MIMO path
TR_MDBU_L2300T	ALLIANCE-TR MDBU unit for LTE2300 TDD
TR_MDBU_L2300T_B	ALLIANCE-TR MDBU unit for LTE2300 TDD MIMO path
TR_MDBU_L2600T	ALLIANCE-TR MDBU unit for LTE2600 TDD
TR_MDBU_L2600T_B	ALLIANCE-TR MDBU unit for LTE2600 TDD MIMO path
TR_MDBU_AWS13	ALLIANCE-TR MDBU unit for AWS13
TR_MDBU_AWS13_B	ALLIANCE-TR MDBU unit for AWS13 MIMO path

* Grayed color module indicates future availability

Spare Units & Accessories

Part Name	Order Description
Common Part Units	
TR_MCPU	ALLIANCE-TR BIU central processing unit
TR_MPSU_AC	ALLIANCE-TR BIU Power supply unit - AC
TR_MPSU_DC	ALLIANCE-TR BIU Power supply unit - DC
TR_MCDU	ALLIANCE-TR Main Combiner/Divider Unit
TR_MCDU_SM	ALLIANCE-TR Main Combiner/Divider Unit with Spectrum Analyzer Module (Optional)
TR_SCDU	ALLIANCE-TR Slave Com/Div Unit
Accessories	
TR_BIU_DC_CA	ALLIANCE-TR BIU DC -48 Power Cable, 2m
TR_SBIU_RF_CA	ALLIANCE-TR SBIU ~ MBIU RF Cable, 70cm
TR_SBIU_SI_CA	ALLIANCE-TR SBIU ~ MBIU Signal Interface Cable, 70cm
TR_MDBU_SQN	N Plug SQN Jack (Qty 1) & SQN Plug N Jack (Qty 1)
TR_MDBU_BLK	ALLIANCE-TR MDBU blank card for port termination



Brazil: Av. Paulista, 2300, Andar Pilotis, CEP 01310-300, São Paulo – SP, Brazil
Mexico: Av. Juan Vázquez de Mella 481, Edificio CAD, Segundo Piso, Oficina 42
 Col. Los Morales, Del. Miguel Hidalgo, Polanco, C.P 11510, Ciudad de México