SPECIFICATIONS

FOR

Fiber-optic BASE INTERFACE UNIT

WITH DIVERSITY

MODEL No.: MW-FBIU-DC-DIV

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1. OVERVIEW:

The Fiberoptic repeater system is an excellent solution for BTS coverage extension by means of Fiberoptic link and remote high power RF head.
The system consists of two conversion boxes;

- FBIU (Fiberoptic Base Interface Unit)
- FBDA (Fiberoptic Bi Directional Amplifier)

Two fibers, one for main path, uplink and downlink direction and one in diversity uplink direction connect the FBIU to the FBDA. Using fiberoptic cable allows long distance transmission, up to 20 Km.

The FBIU is installed near the BTS and is connected to the BTS by RF cables. A Fiberoptic transceiver converts the Downlink RF signals to optical signals and the uplink optical signal to RF, the optical signals are combined by WDM to a single optical fiber.
The Fiberoptic receiver is used to convert the optical signal to RF in the diversity path.
A high power attenuator is used as power adjustment between BTS Tx power and Fiberoptic transceiver requirements. Assuming that the output power of BTS is +30dBm, a 30 dB high power external attenuator is required. In practice, more attenuation can be added for different system setting.
For Rx directions separate attenuators are used to adjust the signal level at the Rx inputs of the BTS.

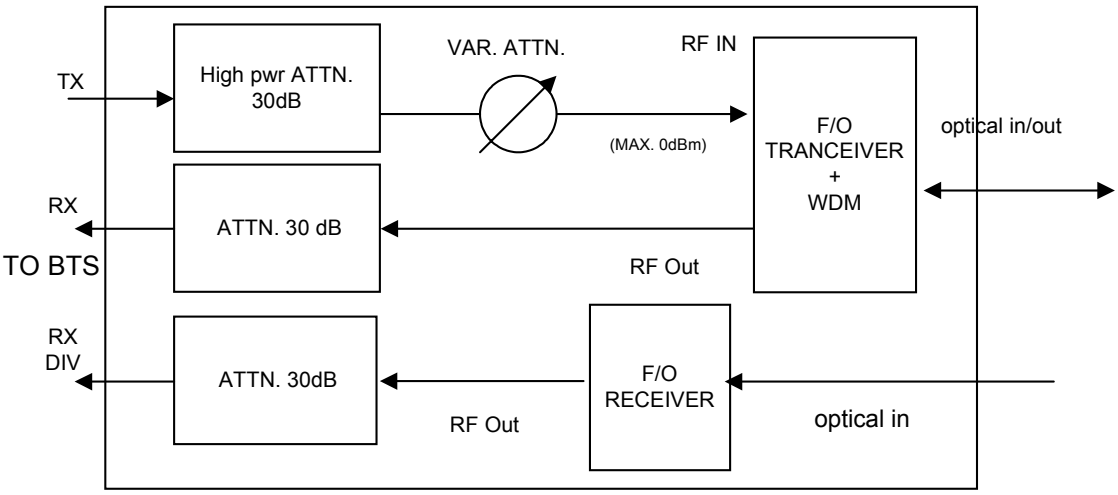


FIG 1: FBIU RF BLOCK DIAGRAM
(without duplexer)

2 . SYSTEM SPECIFICATIONS:

2.1 RF SPECIFICATIONS

(For nominal optical signal, RF components only)

Frequency Range	Uplink (RX, DIV)	Downlink (TX)
	800-2000MHz	800-2000MHz
Passband Attenuation @ min. Manual Attenuation	30 dB Nom.	
Input Level	N.A.	+30dBm
Manual Attenuation Range	Continuos on Rfiber Gain adjust	0-10 dB in 1dB steps (FBIU side)
Impedance Level	50 Ohms	
VSWR In/Out	1.5 : 1 typ	

2.2 ALARM SPECIFICATIONS

Remote Fault Indication (Summarized alarm)	Alarm is sent from FBDA to FBIU on the serial data link of the F/O transmitter
Electrical Fault Indication LED	Illuminated LED on FBIU front panel for any alarm from FBDA side
Fiberoptic Connection Fault Indication LED	Illuminated LED on F/O Transceiver/Receiver when Optical Connection is performing Correctly. LED is OFF when FO Receiver Power falls.
FBIU alarm output	D type 9pin male, N.C. relay contact between pin 2 and pin 4, open for active alarm

2.3 MECHANICAL SPECIFICATIONS:

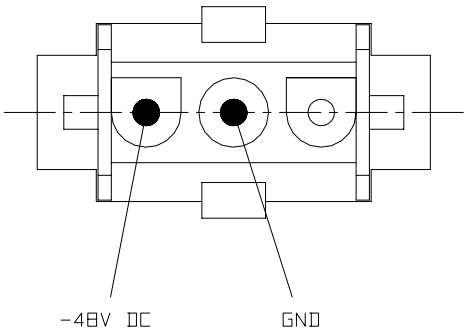
Size	19" 1Ux250mm
Weight	3 kg. Approx.
Type	In door, rack mount
Power Supply	Molex 2.13 mm , 3 circuits female, male pins

* Other power supply are available upon request

2.4 ENVIRONMENTAL CONDITIONS:

Operating temperature	- 30°C to + 50°C
Storage temperature	- 30°C to + 70°C

FBIU DC CONNECTOR



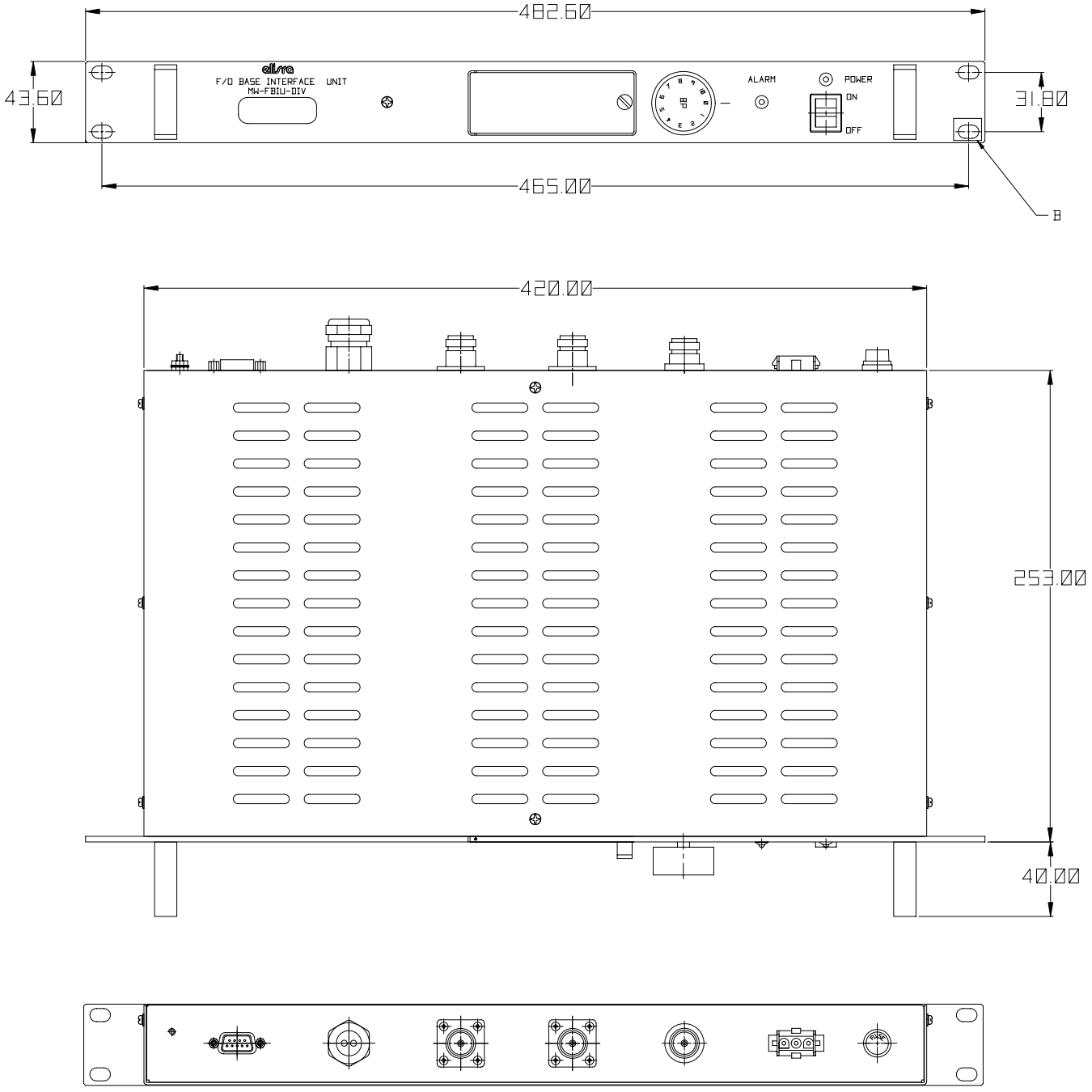


FIG. 2: FBIU MECHANICAL OUTLINE DRAWING