

AnaCom's series of C-band ELSAT<sup>®</sup> Block-Upconverters (BUC) are available in transmitter output levels up to 400 Watts, in single or redundant configurations. These BUCs are ruggedly built for continuous outdoor duty in all types of environments. They are especially suitable for SCPC, MCPC, and DAMA applications.

The upconverter, power amplifier, monitor and control and power supply are included in a single enclosure and the only cabling required to the indoor equipment are IF cables. An ovenized, high stability crystal oscillator is used to lock the TX synthesizer. Additional temperature and aging compensation are provided by an onboard microprocessor.

## Features

- ✓ Built in test facilities for improved maintainability and reduced dependence on external test equipment
- ✓ No indoor equipment is needed
- ✓ Frequency agile radio equipment.
- ✓ Superior phase noise
- ✓ Flexible, universal power supply

## Built In Test Equipment

To improve and simplify maintenance routines, an external terminal (or computer) can be connected to monitor a number of critical parameters without use of additional test equipment. These include:

- ✓ Transmitter power output level
- ✓ TX IF level
- ✓ Power supply voltages
- ✓ TX synthesizer loop voltages
- ✓ Internal Temperature
- ✓ Alarm Details

Controllable functions from the terminal include:

- ✓ TX frequency and gain (*ON/OFF feature*)

## Benefits

- ✓ "Last Touch" controls allow for remote configuration or local (*manual*) configuration
- ✓ Flash memory means that the BUC always powers up with exactly the same operating conditions as when it lost power (*or was turned off*)
- ✓ Comprehensive maintenance features for operational effectiveness and minimum outages.
- ✓ Simple installation.

## Comprehensive Monitor & Control

The ELSAT<sup>®</sup> BUC's Monitor & Control feature allows you to monitor and control the BUC on the same M&C bus with most indoor equipment such as modems and multiplexers. The Monitor & Control system can be used in combination with the unit's internal metering function to monitor operational parameters.

The M&C can be accessed remotely via-

Ethernet protocols:

- ✓ Internal Webpage
- ✓ Telnet
- ✓ SNMP
- ✓ AnaCom Supervisor 9

Serial protocols:

- ✓ RS-232
- ✓ RS-485
- ✓ AnaCom Supervisor 9

## Compact, Functional Design

The upconverter, power amplifier, monitor and control and power supply are included in a single enclosure. The only cabling required to the indoor equipment are IF and power. An optional ovenized, high stability crystal oscillator can be used to lock the TX synthesizer. Additional temperature and aging compensation are provided by an onboard microprocessor.



# ELSAT® BUC

## C-band Series

## SPECIFICATIONS

| TRANSMIT CHARACTERISTICS | 1 dB COMPRESSION POINT (dBm)                                 | 40                                                                           | 43  | 44.8 | 46                   | 47                       | 47.8 | 48.5 | 49   | 50                          | 51   | 51.8 | 52.6 | 53   | 54.8 | 55.4 | 56   |
|--------------------------|--------------------------------------------------------------|------------------------------------------------------------------------------|-----|------|----------------------|--------------------------|------|------|------|-----------------------------|------|------|------|------|------|------|------|
|                          | TX GAIN                                                      | 66                                                                           | 69  | 70.8 | 71                   | 73                       | 73.8 | 74.5 | 75   | 76                          | 77   | 77.8 | 78.6 | 79   | 80.4 | 81.4 | 82   |
|                          | TX GAIN RANGE                                                | 13 dB variable in .1 dB steps via M&C                                        |     |      |                      |                          |      |      |      |                             |      |      |      |      |      |      |      |
|                          | TX LEVEL FLATNESS                                            | 6 dBp-p max / 500 MHz                                                        |     |      |                      |                          |      |      |      |                             |      |      |      |      |      |      |      |
|                          | TX GAIN OVER TEMPERATURE                                     | +/- 2dB max                                                                  |     |      |                      |                          |      |      |      |                             |      |      |      |      |      |      |      |
|                          | TX INPUT IF FREQUENCY                                        | EC = 950 to 1525 MHz                                                         |     |      |                      | SEC = 950 to 1825 MHz    |      |      |      | LMI-EC = 950 to 1650 MHz    |      |      |      |      |      |      |      |
|                          | TX INPUT IF IMPEDANCE                                        | 50 ohms (75 ohms optional)                                                   |     |      |                      |                          |      |      |      |                             |      |      |      |      |      |      |      |
|                          | TX INPUT IF LEVEL                                            | -25 dBm for rated output with nominal gain                                   |     |      |                      |                          |      |      |      |                             |      |      |      |      |      |      |      |
|                          | TX L.O.                                                      | EC = 4.9 GHz                                                                 |     |      |                      | SEC = 4.9 GHz            |      |      |      | LMI-EC = 4.775 GHz          |      |      |      |      |      |      |      |
|                          | TX OUTPUT FREQUENCY                                          | EC = 5.850 to 6.425 GHz                                                      |     |      |                      | SEC = 5.850 to 6.725 GHz |      |      |      | LMI-EC = 5.725 to 6.425 GHz |      |      |      |      |      |      |      |
|                          |                                                              | PC = 6.425 to 6.725 GHz                                                      |     |      |                      | RC = 5.975 to 6.475 GHz  |      |      |      | XC = 6.725 to 7.025GHz      |      |      |      |      |      |      |      |
|                          | TX PHASE NOISE                                               | -60 dBc/Hz max @ 100Hz                                                       |     |      |                      | -70 dBc/Hz max @ 1KHz    |      |      |      | -80 dBc/Hz max @ 10KHz      |      |      |      |      |      |      |      |
|                          |                                                              | -90 dBc/Hz max @ 100KHz                                                      |     |      |                      | -100 dBc/Hz max @ 1MHz   |      |      |      |                             |      |      |      |      |      |      |      |
| INTERMOD                 | -33 dBc max (2 carriers, each 9 dB backoff from P1dB rating) |                                                                              |     |      |                      |                          |      |      |      |                             |      |      |      |      |      |      |      |
| SPURIOUS                 | -55 dBc max out of band                                      |                                                                              |     |      |                      |                          |      |      |      |                             |      |      |      |      |      |      |      |
| REFERENCE                | Requirements                                                 | Provided on TXIF line by L-band modem                                        |     |      |                      |                          |      |      |      |                             |      |      |      |      |      |      |      |
|                          | FREQUENCY                                                    | 10 MHz (sine-wave)                                                           |     |      |                      |                          |      |      |      |                             |      |      |      |      |      |      |      |
|                          | INPUT POWER                                                  | -5 to +5 dBm (at input port)                                                 |     |      |                      |                          |      |      |      |                             |      |      |      |      |      |      |      |
|                          | PHASE NOISE                                                  | -125 dBc/Hz max @ 100Hz<br>-135 dBc/Hz max @ 1KHz<br>-140 dBc/Hz max @ 10KHz |     |      |                      |                          |      |      |      |                             |      |      |      |      |      |      |      |
|                          | INTERNAL REFERENCE OPTION                                    | 10 <sup>-8</sup> over rated temperature                                      |     |      |                      |                          |      |      |      |                             |      |      |      |      |      |      |      |
| SYSTEM                   | ALARM RELAYS                                                 | FORM C for Summary Alarm; Isolated                                           |     |      |                      |                          |      |      |      |                             |      |      |      |      |      |      |      |
|                          | POWER                                                        | 100 to 250 VAC; 47 to 63 Hz optional 48V DC                                  |     |      |                      |                          |      |      |      |                             |      |      |      |      |      |      |      |
|                          | M&C                                                          | SNMP, HTTP, Telnet                                                           |     |      |                      | Ethernet, RS-232, RS-485 |      |      |      |                             |      |      |      |      |      |      |      |
| ENVIRONMENTAL            | TEMPERATURE                                                  | -50 to +55°C operational<br>-50 to +75°C storage                             |     |      |                      |                          |      |      |      |                             |      |      |      |      |      |      |      |
|                          | HUMIDITY                                                     | 95% at 45C                                                                   |     |      |                      |                          |      |      |      |                             |      |      |      |      |      |      |      |
|                          | ALTITUDE                                                     | 6,500 meters (21,500 ft) max                                                 |     |      |                      |                          |      |      |      |                             |      |      |      |      |      |      |      |
|                          | RAIN                                                         | 20 inches per hour                                                           |     |      |                      |                          |      |      |      |                             |      |      |      |      |      |      |      |
|                          | WIND                                                         | 150 miles per hour                                                           |     |      |                      |                          |      |      |      |                             |      |      |      |      |      |      |      |
|                          | VIBRATION                                                    | 1.0 g random operational, 2.5 g random survival                              |     |      |                      |                          |      |      |      |                             |      |      |      |      |      |      |      |
|                          | SHOCK                                                        | 10 g operational, 40 g survival                                              |     |      |                      |                          |      |      |      |                             |      |      |      |      |      |      |      |
| POWER & DIMENSIONS       | TYPICAL POWER CONSUMPTION (VA)                               | 125                                                                          | 229 | 280  | 390                  | 394                      | 398  | 570  | 572  | 762                         | 1179 | 1179 | 1539 | 1539 | 2832 | 2832 | 2832 |
|                          | PRIME POWER RECOMMENDATION                                   | 340                                                                          | 600 | 730  | 870                  | 880                      | 890  | 1200 | 1200 | 1600                        | 2400 | 2400 | 3100 | 3100 | 6200 | 6200 | 6200 |
|                          | WEIGHT (lbs.)                                                | 31                                                                           | 37  | 40   | 42                   | 54                       | 54   | 64   | 64   | 64                          | 120  | 142  | 142  | 142  | 207  | 207  | 207  |
|                          | (kg.)                                                        | 14                                                                           | 17  | 18   | 19                   | 24                       | 24   | 29   | 29   | 29                          | 54   | 64   | 64   | 64   | 94   | 94   | 94   |
|                          | BUC - 10W                                                    | 21.6" x 9.0" x 9.4"                                                          |     |      |                      | (549 x 229 x 238 mm)     |      |      |      |                             |      |      |      |      |      |      |      |
|                          | SIZE: - 20W, 30W                                             | 21.6" x 9.0" x 10.3"                                                         |     |      |                      | (549 x 229 x 262 mm)     |      |      |      |                             |      |      |      |      |      |      |      |
|                          | - 40W                                                        | 21.6" x 9.0" x 11.4"                                                         |     |      |                      | (549 x 229 x 289 mm)     |      |      |      |                             |      |      |      |      |      |      |      |
|                          | - 50W, 60W                                                   | 21.6" x 9.0" x 12.5"                                                         |     |      |                      | (549 x 229 x 317 mm)     |      |      |      |                             |      |      |      |      |      |      |      |
|                          | - 70W, 80W, 100W                                             | 21.6" x 13" x 11.2"                                                          |     |      |                      | (549 x 330 x 284 mm)     |      |      |      |                             |      |      |      |      |      |      |      |
|                          | - 125W, 150W, 180W, 200W                                     | 34.5" x 12.75" x 12.4"                                                       |     |      |                      | (876 x 324 x 315 mm)     |      |      |      |                             |      |      |      |      |      |      |      |
| - 300W, 350W, 400W       | 34.5" x 25.5" x 12.36"                                       |                                                                              |     |      | (876 x 648 x 314 mm) |                          |      |      |      |                             |      |      |      |      |      |      |      |

\*all specifications subject to change

8/26/13

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