



PRODUCT DESCRIPTION and INSTALLATION

The LBS2250 is a ten way, 1 GHz, output combiner AND a 2 input / 10 output L band, amplified, multi-switch in the same chassis. In addition, it also contains two power inserters to supply power to two LNBS. This allows a single 1RU tall unit to replace both the previous output combiner and L band cable management panel in systems utilizing the SCTx860 family of transcoders, saving 1RU per tray of transcoders.

The LBS2250 is intended for use with the SCT1860, SCT2860, SCT3860, and SCT4860 transcoders that are mounted in the RMT150 rack mounting tray. The LBS2250 is powered and controlled by the PS151 power supply that will be powering the rack of transcoders. The LBS2250 should be mounted just above the RMT150. The LBS2250 provides an efficient means of connecting the LNB to the front input connectors on the SCTx860s.

Because of the amplification in the LBS2250 L band multiswitch, use of the LBS2250 eliminates the need for separate LNB power inserters or amplifiers. The LBS2250 has approximately unity gain from a L band LNB input to the rear panel loop output for that input. This allows 'daisy chaining' through several LBS units without loosing any level. It is not necessary to terminate the L band output, if not used, but it may be desirable to do so to prevent any undesired RF leakage from that port.

The LBS2250 has a nominal 5 dB level drop from a LNB input to any of the front panel L band outputs.

The LBS is programmed and powered from the PS151 power supply/controller that is installed with the transcoders in the RMT150. To install the LBS, select any one of the power cables that connect the PS151 to the SCTx860 transcoders and loop this connection through the

LBS2250. Connect the PS151 to the Power **Input** socket on the rear of the LBS. Then connect another power supply cable between the LBS Power **Output** and the transcoder. One of these power cables is provided with the transcoder and one is provided with the LBS2250.

When the LBS is connected to the PS151, as per the above paragraph, the PS151 will recognize the LBS and provide an additional menu screen in each SCT connected to the same PS151. This will allow programming that input for either the A LNB or the B LNB. As the LBS selection is present in each SCT menu chain, you cannot control the LBS until the SCTx860s are also installed.

IMPORTANT ! – It is necessary that the transcoders are connected in proper order to the PS151 output connectors. Viewed from the front of the rack, the left most transcoder must be powered by socket 1, the next transcoder by socket 2 on the PS151, and so on from left to right. It doesn't matter which power supply output is looped through the LBS2250. The LBS L band outputs must then connect to the transcoder input that is directly below the LBS output – do not cross these cables.

After the LBS is installed, go to the PS151 front panel and enter the program mode. Use the unit select arrows to select each transcoder and on each transcoder use the left and right arrows to navigate to the LBS: menu which is between the output CHANNEL menu and the satellite MODE: menu. Then use the up or down arrow to choose LNB A or B.

Any version of PS151 firmware from V1.4 up will recognize the LBS. If your PS151 is older than V1.4, please contact the factory for information regarding how to upgrade the firmware in the field. This can be done via the RS232 connection to a PC.

SPECIFICATIONS

L band Amplified Multiswitch - specification applies to each input, A or B

Frequency Range:	950 to 2250 MHz
Input Level Range:	- 60 to -25 dBm from LNB
L Band Output Levels:	Rear LNB Output - Unity gain ref. to LNB Input. Front Panel, 10 places - 5 dB below LNB Input level, nominal.
L Band return loss:	14 dB typical, all ports.
Isolation, LNB A to LNB B:	30 dB minimum

Output Combiner

Frequency Range:	54 to 1000 MHz
Inputs:	10
Output:	1
Insertion Loss, any input to output:	13 dB nominal, 14.5 dB maximum
Return Loss:	14 dB typical, all ports

LNB Powering

LNB A	18 VDC @ 250 mA, maximum
LNB B	13 or 18 VDC, selectable @ 250 mA, maximum.
Protection:	Short circuit protection.



LBS2250 L BAND SWITCH



Three Year Limited Warranty

R.L. DRAKE LLC warrants to the original purchaser this product shall be free from defects in material or workmanship for three (3) years from the date of original purchase.

During the warranty period the R.L. DRAKE LLC or an authorized Drake service facility will provide, free of charge, both parts and labor necessary to correct defects in material and workmanship. At its option, R.L. DRAKE LLC may replace a defective unit.

To obtain such a warranty service, the original purchaser must:

- (1) Retain invoice or original proof of purchase to establish the start of the warranty period.
- (2) Notify the R.L. DRAKE LLC or the nearest authorized service facility, as soon as possible after discovery of a possible defect, of:
 - (a) the model and serial number,
 - (b) the identity of the seller and the approximate date of purchase; and
 - (c) A detailed description of the problem, including details on the electrical connection to associated equipment and the list of such equipment.
- (3) Deliver the product to the R.L. DRAKE LLC or the nearest authorized service facility, or ship the same in its original container or equivalent, fully insured and shipping charges prepaid.

Correct maintenance, repair, and use are important to obtain proper performance from this product. Therefore carefully read the Instruction Manual. This warranty does not apply to any defect that R.L. DRAKE LLC determines is due to:

- (1) Improper maintenance or repair, including the installation of parts or accessories that do not conform to the quality and specifications of the original parts.
- (2) Misuse, abuse, neglect or improper installation.
- (3) Accidental or intentional damage.

All implied warranties, if any, including warranties of merchantability and fitness for a particular purpose, terminate three (3) years from the date of the original purchase.

The foregoing constitutes R.L. DRAKE LLC's entire obligation with respect to this product, and the original purchaser shall have no other remedy and no claim for incidental or consequential damages, losses or expenses. Some states do not allow limitations on how long an implied warranty lasts or do not allow the exclusions or limitation of incidental or consequential damages, so the above limitation and exclusion may not apply to you.

This warranty gives you specific legal rights and you may also have other rights which vary from state to state. This warranty shall be construed under the laws of Ohio.

For Service, contact:

R.L. DRAKE LLC
230 Industrial Drive
Franklin, Ohio 45005 U.S.A.
Customer Service and Parts Telephone: +1 (937) 746-6990
World Wide Web Site: <http://www.rldrake.com>



LBS2250 L BAND SWITCH



SERVICE INFORMATION

You may contact the R.L. DRAKE Service Department for additional information or assistance by calling +1 (937) 746-6990, Monday through Friday, between 8:00 A.M. and 4:00 P.M. Eastern Time, except on holidays.

You may also contact the R.L. DRAKE Service Department by E-mail at the following address:
TechSupport@rldrake.com

Should you want to return your unit for service, package the unit carefully using the original carton or other suitable

container.

Write your return address clearly on the shipping carton and on an enclosed cover letter describing the service required, symptoms or problems. Also include your daytime telephone number and a copy of your proof of purchase.

The unit will be serviced under the terms of the R.L. DRAKE LLC Limited Warranty and returned to you.

IF YOU NEED TO CALL FOR HELP

Call our Customer Service/Technical Support line at +1 (937) 746-6990 between 8:00 A.M. and 4:00 P.M. Eastern Time, weekdays. Please have the unit's serial number available. We will also need to know the specifics of any other equipment connected to the unit. When calling, please have the unit up and running, near the phone if possible. Our technician(s) will likely ask certain questions to aid in diagnosis of the problem. Also, have a voltmeter handy, if possible.

R.L. DRAKE also provides technical assistance by e-mail: TechSupport@rldrake.com

Many of the products that are sent to us for repair are in perfect working order when we receive them. For these units, there is a standard checkout fee that you will be charged. Please perform whatever steps are applicable from the installation sections of the Owner's Manual before calling or writing—this could save unnecessary phone charges. Please do not return the unit without contacting R.L. DRAKE first: it is preferred to help troubleshoot the problem over the phone (or by mail) first, saving you both time and money.

Inside the carton, enclose a note with your name, address, daytime phone number, and a description of the unit's problem.

The unit must be sent to the following address:

**Service Department
R.L. DRAKE LLC
230 Industrial Drive
Franklin, Ohio 45005 U.S.A.**

Be sure to include your street address which will be needed for UPS return. UPS Surface (Brown Label) takes 7-10 days to reach us depending on your location, Blue takes 2-3 days. Red is an overnight service. Send the unit in a way that it can be traced if we can't verify receipt of shipment. We suggest UPS or insured postal shipment.

If the unit is still under the original owner's warranty, R.L. DRAKE will pay the cost of the return shipment to you. Our return shipping policy is that we will return it UPS Brown if received Brown or by US Mail, it will be returned Blue if received Blue or Red—or it will be returned however you prefer if you furnish the return cost for the method you select. If the unit is out of warranty, use one of the following methods for return shipment:

- 1) You designate billing to American Express, VISA, MasterCard or Discover card;
- 2) You prepay the service charges with a personal check, or
- 3) You specify some other method of return and payment.

When calling, the technician can estimate the repair charges for you over the phone. This is another good reason to call before sending a unit in for repair. Typically, equipment is repaired in five to ten working days after it arrives at R.L. DRAKE if we have all the facts. If we must call you, it may take longer. R.L. DRAKE is not responsible for damage caused by lightning, nonprofessional alterations, "acts of God", shipping damage, poor storage/handling, etc. R.L. DRAKE will make note of any shipping damage upon receipt.

You will need to send proof of purchase to receive warranty service. Typically, a copy of the invoice from an R.L. DRAKE dealer will suffice. The warranty is for the original owner only and is not transferable.