

The R.L. Drake DDC864A is a low noise downconverter designed for translating digital ATSC, 8VSB signals from their off-air channel to a 44 MHz IF output. The output of the DDC864A can be connected to a DUC series upconverter to place the digital signal on a new output channel.

When the DDC864A is used with the DUC864, "on channel" conversions, (the same input channel on the DCC and output channel on the DUC) are acceptable.

The DDC864A provides low noise figure and low phase noise as well as a flat passband to minimize signal deterioration.

The DDC864A is optimized for use with ATSC 8VSB modulation in a 6 MHz wide channel assignment. The passband is designed for optimized operation with 8VSB signals in an adjacent channel environment. For translation of QAM signals, the Drake model DQT1000 is preferred for this task.

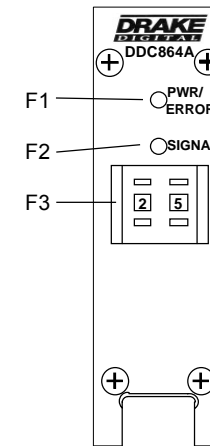


Figure 1

F1 - POWER/ERROR Indicator

Lights when the unit is connected to the required source of DC power via the rear panel DC INPUT connector. A flashing condition indicates an invalid channel setting or other conditions that would cause the unit to operate on an invalid channel. The RF output is switched off for flashing (ERROR) conditions.

F2 - SIGNAL Indicator

Lights when a signal is present.

F3 - Channel Number Switch

Sets the desired operating channel for standard Broadcast TV channels 02 through 69.

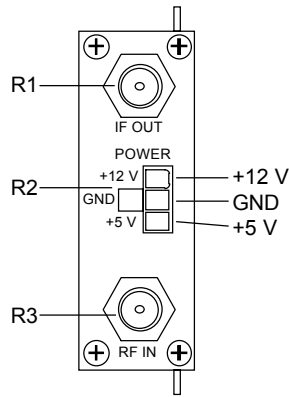


Figure 2

R1 - IF OUTPUT Connector

This is the 44 MHz IF output. The level is +30 dBmV.

R2 - DC INPUT Connector

This 3-pin connector (Male) accepts the appropriate mating DC power cable. Observe proper orientation and wiring.

R3 - RF IN Connector

This is the downconverter RF input from an antenna or CATV feed.

CONNECTIONS AND CONTROLS

All connections to and from each upconverter are made through the rear panel.

DESCRIPTION

Figure 3 shows a typical installation utilizing the Drake DRMM12 rack with 4 DDC864A downconverters, and 4 DUC864 upconverters. A PS8 power supply module is used to power all units.

RACK MOUNTING

Adequate ventilation is very important in multichannel installations. Units should be spaced apart vertically by at least 1.75" wherever possible, and some air movement is mandatory in enclosed rack cabinets. Excessive heat will shorten component life and performance will be degraded without proper cooling.

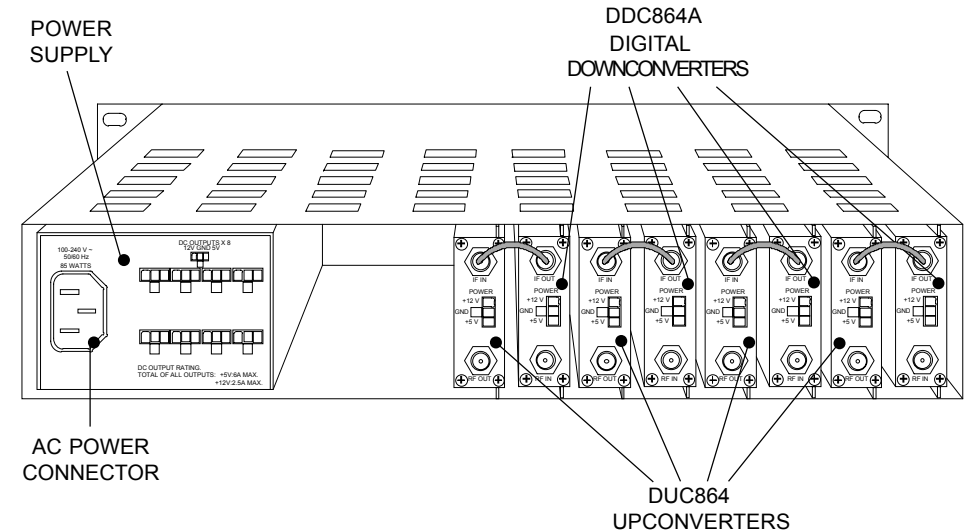


Figure 3

TABLE 2: BC TV

| VHF BROADCAST CHANNELS | |
|-------------------------------|--|
| <i>Channel Number</i> | <i>Center of Channel Frequency (MHz)</i> |
| 2 | 57 |
| 3 | 63 |
| 4 | 69 |
| 5 | 79 |
| 6 | 85 |
| 7 | 177 |
| 8 | 183 |
| 9 | 189 |
| 10 | 195 |
| 11 | 201 |
| 12 | 207 |
| 13 | 213 |

| UHF BROADCAST CHANNELS | |
|-------------------------------|--|
| <i>Channel Number</i> | <i>Center of Channel Frequency (MHz)</i> |
| 14 | 473 |
| 15 | 479 |
| 16 | 485 |
| 17 | 491 |
| 18 | 497 |
| 19 | 503 |
| 20 | 509 |
| 21 | 515 |
| 22 | 521 |
| 23 | 527 |
| 24 | 533 |
| 25 | 539 |
| 26 | 545 |
| 27 | 551 |
| 28 | 557 |
| 29 | 563 |
| 30 | 569 |
| 31 | 575 |
| 32 | 581 |
| 33 | 587 |
| 34 | 593 |
| 35 | 599 |
| 36 | 605 |
| 37 | 611 |
| 38 | 617 |
| 39 | 623 |
| 40 | 629 |
| 41 | 635 |
| 42 | 641 |
| 43 | 647 |
| 44 | 653 |
| 45 | 659 |
| 46 | 665 |
| 47 | 671 |
| 48 | 677 |
| 49 | 683 |
| 50 | 689 |
| 51 | 695 |
| 52 | 701 |
| 53 | 707 |
| 54 | 713 |
| 55 | 719 |
| 56 | 725 |
| 57 | 731 |
| 58 | 737 |
| 59 | 743 |
| 60 | 749 |
| 61 | 755 |
| 62 | 761 |
| 63 | 767 |
| 64 | 773 |
| 65 | 779 |
| 66 | 785 |
| 67 | 791 |
| 68 | 797 |
| 69 | 803 |

RF INPUT

Frequency Range: 54 to 806 MHz;
 OFF-AIR channels 2 to 69,
 Input level Range: -25 dBmV to +30 dBmV.
 Impedance: 75 Ohms, return loss of 8 dB
 Noise Figure: 10 dB, maximum
 Image Rejection: >75 dB.

Output

IF Frequency: 44 MHz.
 Level: +30 dBmV, ±1 dB.
 Impedance: 75 Ohms, return loss of 20 dB
 Frequency Stability: ±30 PPM.
 Channel Bandwidth: 6 MHz SAW filtered.
 SSB Phase Noise: -88 dBc @ 10 kHz offset.
 Amplitude Flatness
 (6 MHz Channel): ±1 dB over 4 MHz

GENERAL

DC Power Input: +12 V ±5% @ 150 mA .
 +5 V ±5% @ 150 mA.
 Operating Temperature: 0° C to +50° C ambient.
 Size: 1" W x 3.5" H x 9.25" D. (2.5 cm) W x (8.9 cm) H x (23.5 cm) D.
 Weight: 11 oz. (0.31 Kg).

THREE YEAR LIMITED WARRANTY

R.L. DRAKE COMPANY 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 COMPANY 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 COMPANY may replace a defective unit.

To obtain such 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 COMPANY 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 COMPANY 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 necessary 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 COMPANY 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 COMPANY'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.



R.L. DRAKE COMPANY, LLC

710 Pleasant Valley Drive
Springboro, OHIO 45066 U.S.A.

CUSTOMER SERVICE AND PARTS TELEPHONE: +1 (937) 746-6990

TELEFAX: +1 (937) 806-1510

WORLD WIDE WEB SITE: <http://www.rldrake.com>