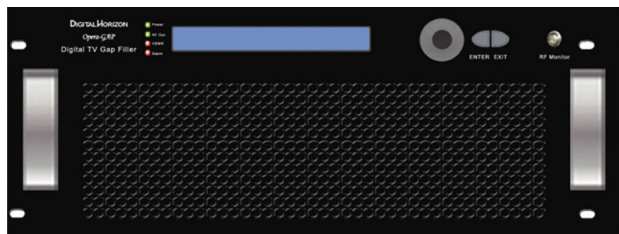


# UC-750 DTV-GF

Digital Terrestrial and Mobile TV Gap Filler

Upcom Technologies' UC-750 DTV-GF is a VHF/UHF repeater/transmitter specially designed to improve and assure Terrestrial Digital TV coverage where the terrain features may cause gaps in the coverage of main transmission stations. The gap filler re-transmits the DTV RF channel at the same channel, amplified with minimum distortion.



- **SUPPORT MAJOR DIGITAL TERRESTRIAL AND MOBILE TV STANDARDS: ISDB-T, ISDB-TB, ATSC, DVB-T/T2, DVB-H/SH, DTMB, CMMB, DAB/T-DMB, FLO**
- **CHANNEL BANDWIDTH: 6MHz OR 8MHz**
- **RF INPUT: VHF OR UHF WITH STEP OF 1Hz**
- **RF INPUT RANGE: -72dBm TO -10dBm**
- **NOISE FIGURE < 10dB**
- **INPUT LEVEL AGC SQUELCH**
- **ADJACENT CHANNEL INTERFERENCE: > 35dB**
- **RF OUTPUT: VHF OR UHF WITH STEP OF 1Hz**
- **RF OUTPUT LEVEL: 1W TO 100W**
- **MAX MER : 34dB TYPICAL, MER LOSS<2dB**
- **SPECTRUM SHOULDER > 45dB**
- **TRANSIT DELAY: 5 $\mu$**
- **ECHO CANCELLATION RANGE: 1.5 $\mu$  TO 448 $\mu$**
- **ECHO CANCELLATION: <40dB**
- **GAIN MARGIN: -12dB MAX**
- **POWERFUL LINEAR AND NON-LINEAR PRE-CORRECTION**
- **DIGITAL SHAPING FILTER PRE-CORRECTION**
- **RS232 CONTROL AND SUPERVISION OR IP WEB BROWSER IN OPTION**
- **COMPLIANT WITH ATSC SPECIAL GAP FILLER FEATURES**

## Equipment Operational Mode:

Iso-Frequency Gap Filler

Hetero-Frequency Transposer

## ATSC Gap Filler Special Features:

Shaping filter delay: 5,6,7,9 $\mu$ s

Shoulder and out of band rejection: >54dB

Maximum MER: 38dB typical

Gain margin: -4dB @ MER=27.3dB

Echo attenuation: >30dB

Pilot carrier phase noise: < -93 dBc/Hz@ 20KHz

## UPCOM Technologies Inc.

2033 Gateway Place, 5th Floor, San Jose, California 95110

Phone: 1.408.329.4158 • Fax: 1.408.329.4159 • E-mail: sales@upcom.com

web : www.upcom.com



# UC-750 DTV-GF

Digital Terrestrial and Mobile TV Gap Filler

## RF Input:

Frequency range:

VHF frequency range: 170 MHz to 240 MHz

or UHF frequency range: 470 MHz to 860 MHz

Frequency step: 1Hz

Channel bandwidth: 6MHz or 8MHz

Input level range: - 72 dBm to -10 dBm

Typical input level: - 55 dBm

Max input level: 0 dBm

AGC squelch: -75 to -10dBm, +/-3dB

Noise figure:<8dB

Doppler filter (max frequency):10Hz

Adjacent channel interference (QEF):

Analogue > 35 dB, Digital >35 dB

Return loss:>13dB

Input connector type: N female, 50ohm

## RF Output:

Central frequency:

VHF frequency range: 170 MHz to 240 MHz

or UHF frequency range: 470 MHz to 860 MHz

Frequency step: 1Hz

Output level : 1W to 100W+/-2dB, step 0.1dB

Signal stability: +/- 0.1dB/10degrees

In band ripple: < 1dB, Echo Cancellation off

In band ripple: < 1dB, Echo Cancellation off

Maximum MER: 34dB typical

Shoulder and out of band rejection: >45dB

Spurious: 36dB relative to total power

Return loss: >15dB

Output connector type: N female, 50 Ohm

## Gap Filler Performance:

Digital filter shaping and tilt +/-2dB, step 0.2dB

Minimum transit time <5us

Echo cancellation range: 1.5us to 448us

Gain margin: -12dB max

Echo attenuation: >40 dB

MER loss: < 2 dB

Temperature management: RF mute or Power off

at critical temperature

## Build-in Test Mode:

PRBS TS Sequence

Central Carrier Cancelled mode for noise test

Iso-frequency Antenna coupling test

## Clock Reference:

SFN: Time offset setting

MFN: BR adaptation, Static delay setting

## Clock Reference:

### Internal 10MHz

To stability : +/-1ppm(typical)

Time stability: +/- 1 ppm /year

10MHz reference Output level: 0dBm +/- 3dB

### External 10MHz

10MHz Input level: -15dBm to +15dBm

Frequency: 10MHz+/-5ppm

Input connector type: BNC female, 50 Ohm

## Control Mode:

Local control: 6 buttons, LCD screen, LED

Remote control: RS232 & RS485 or WEB browser

through IP Ethernet RJ-45 in option

User friendly man machine interface

## Operating temperature:

0 to 50°, humidity 10% to 80%(Indoor)

-20 to 70°, humidity 10% to 80%(Outdoor)

## Pre-correction:

Linear pre-correction: shaping filter

Non linear pre-correction: AM-AM, AM-PM

## Non linear Pre-correction:

Single shoulder and double shoulder.

Correction	Nb Point	Abscissa range	Ordinate Range	Step
AM/AM	16	-12 dB to +12dB	-6dB to +6dB	0.05dB
AM/PM	16	-12 dB to +12dB	-25° to +25°	0.05dB/0.2°

## Physical Conditions:

Power supply: AC 220V+/-15%, 50W-1000W

Operating temperature: 0-50

Dimension: L=540mm,W=483mm,H=1RU-6RU

Weight: Net 7-35 kg, Gross 10-50 kg

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