



# Gigaplex ISM 5Ghz Digital TV transmitter

Digital HDTV – ISM 4,9-5,9 GHz Band for DVB-MC/S – MVDDS Triple Play

Gigaplex MVDDS Broadcast and backbone System Transmitter comply the ITU specifications & WCAA needs. Designed for quick and low cost MVDDS Hypercable Digital Television and Internet deployment, the ISM 5 Gigaplex provide DVB-S 400 Mbits or 800 Mbits in DVB-S2 according to DVB standards and ITU ISM band use with power limitation recommendations. No less than 200 TV channels can be broadcasted in HD standard (DVB-S MPEG4) by the Basic Gigaplex. EIRP is up to 35 dBm in omni-directional mode and 42 dBm in sectorial mode, in Option high stability GPS reference clock can be provided.



ISM 5 Gigaplex 400/800 Triple Play MVDDS HDTV

## Key features

- Designed for quick on air MVDDS Hypercable and BWA
- Easy to upgrade for the Triple Play wireless networks.
- MMDS 2.4/2.8Ghz relocation in 4,9 to 5,9 GHz
- DTV Broadcast, BWA and backbone applications
- Cancel the need for backhaul by optical or microwave links.
- Semi-automatic redundancy with Network Manager System local and remote control.
- Provide a capacity of 8 carriers @40 MHz bandwidth in 320 MHz.
- Basic Gigaplex is stackable up to 24 Carriers (3 Basic 5RU system)
- Industry's Most Compact solid state transmitter system.
- Advanced embedded intelligence in the Multicarrier exciter combiner system.
- Digital Signal Processing for Optimum signal quality.
- Easy to service modular design – hot-swappable modules - common set of spare parts
- Supports local and remote software upgrades–in-depth diagnostics.
- Very High Speed Internet with HyperWimax option
- Compliant with the Sustainable Development
- Energy Saving, Sun and Wind Powered.
- Maximizing Investment Return.





**Product data sheet specifications**

Each Hypercable Gigaplex integrates the exciter platform designed to ensure any migration to any DVB standard and any new wireless application. With our proprietary automatic gain control (AGC) and Phase Noise Reducer the Gigaplex line delivers the maximum output power for very low main power consumption and the better phase noise quality for DVB-S-QPSK, DVB-S2-8PSK-16APSK-32APSK Broadcasting standards. Gigaplex family have been designed with a highly modular architecture to reduce running costs and makes the transmitters and the system easy to maintain in service.

- Fine output power tuning 0 dBm to 25 dBm. High Linearity, Compression point @ 2dB 27 dBm
- EIRP up to 43 dBm for broadcast service up to 50 km.
- AGC better than +/- 01 dB in a 33 dB dynamical range
- Full IP Ethernet Gigabit interfaces, ASI modules cabling.
- Large family of transmit and receive antennas MISO and SIMO systems with space and angular diversity or shielded furtive an stealth antenna for interference cancelation

**OPTIONS:**

- GPS 10 MHz genlock
- 48 VDC powered for easy wind or solar energy system
- GigaplexS2 **modulators** to drive MFN SFN remote transceivers.
- Gigaplex Transceiver for DVB-T DVB-H Broadcastina VHF-UHF

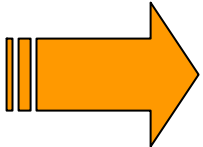
Hypercable repeater in the mountain.  
Powered by sun and windmill for re-transmission in a deep valley not line of sight to the Head End



**OPTION:**  
*Weatherproof de-icing radome for ODU transmitter and antennae system*



**Bandwidth and data flow specifications**



Hypercable Basic Gigaplex Single Polarization Ref. S1 Orthomode Polarization Ref. O2	Radio data output and bandwidth occupancy, Modulation DVB-S2 8PSK	
	Bandwidth occupancy (MHz)	Radio Throughput (Gigabits)
C Band: 3.2 – 4,2 GHz /4,9 – 5,9 GHz		
Gigaplex 400-S1 – One Rack 5 RU	320	0.800
Gigaplex 800-O2 - Two Racks 5 RU	320	1.600



Radio TX ODU 27 dBm    Omni TX antenna 9 dB    Four sectorial TX 360° 4x16dB    High gain 90 & 120cm Inverted Gregorian 38dB    Energy by solar panels combined with wind mills    Furtive RX antenna 45- 75- 90-120 cm

**For further information, about Operators and Distributors franchising please contact *Hypercable***

# ISM Triple Play Gigaplex



## SPECIFICATION FOR GIGAPLEX 2702 C series.

Item	Parameter	Value
1	RF Input Frequency Range	Model A: 900-1950MHz.
2	Input source power supply	Biass-Tee to apply power +15vdc to input. Internal isolating switch or jumper.
3	LO Frequency.	Model A: 4.GHz.
4	LO Stability over temp. range	Model B: Internal frequency reference: Stability $<1 \times 10^{-10}$ per second. Temp: $<+/-5 \times 10^{-8}$ (0 to +60°C). Ageing: $<+/-5 \times 10^{-9}$ per day. or as per ext. freq. ref. i/p.
5	RF Output Frequency Range	Model A: 4,9-5,9GHz.
6	Automatic Gain Control (AGC)	Model B: AGC: Output signal power to be held at +25dBm +0-3dBm for input signal power range of - 10dBm to -40dBm..
7	Phase Lock Alarm Output	Lock +5vdc. Alarm 0vdc.
8	External 10MHz Freq. Ref input	0dBm approx. with auto select.
9	Ext. 10MHz input connector	Sealed TNC type
10	Input/Output Impedance	50 ohm.
11	Return Loss	Typically better than 15dB.
12	Input Connector (L-band)	Sealed N-type.
13	Noise figure	Typically 10dB for low signal level.
14	Output Connector (Ku-band)	Sealed SMA-type.
15	Output Power at -1dB Compression.	Typically +27dBm min at 25°C.
16	Conversion Gain	Variable 35dB-65dB depending upon input signal power.
17	Gain Flatness	+/-0.5dB/40MHz segment, over band.
18	Image Rejection	40dB min.
19	LO Leakage at Input.	-50dBm min
20	Phase Noise (with int. ref.)min.	-75dBc/Hz @ 100Hz offset. -92dBc/Hz @ 1KHz offset. -100dBc/Hz @ 10KHz offset. -107dBc/Hz @ 100KHz offset. -125dBc/Hz @ 1MHz offset.
21	DC Power Supply.	+24+/-4vdc at 1 amp approx. Internal fuse protected. Internal power conditioner for module/LNB supplies.
23	Power supply/Lock Alarm Connector	Sealed male 5-pin type.
24	Operating Temperature Range Environmental	-25°C to +60°C from 30 minutes after switch-on. Weatherproof sealed IP65 including an Andrew type SD003 dehydrator with replaceable cartridge.
25	Mechanical construction	In special metal alloy box painted grey. Fitted clamp to mount on pole 40-60mm diameter.
26	Dimensions excl. clamp & connectors	Connectors on lower face.

# ISM Triple Play Gigaplex



## SPECIFICATION FOR CPE: Hypercable Gigaplex 4,9-5,9 GHz



Version 4,9 - 5,9 GHz, LNB inside the antenna housing



Version 3,4 - 4,2 GHz, LNB outside the antenna housing

Antenna Electrical Properties	
Frequency	4.9 - 5.9 GHz
Gain	23 dBi
Polarization	horizontal or vertical
Beamwidth deg horizontal	10°
Beamwidth deg vertical	10°
VSWR	< 1.5
Impedance	50 Ω
Sidelobe suppression	> 22 dB
Front to back ratio	> 25 dB
Lighting protection	DC ground
Antenna Mechanical Properties	
Technology	Microstrip
Input Connector	N-type female
Dimensions	350x330x36 mm / 13x13x1.4"
Weight	1.35 kg / 3 lbs
Radome material	UV – inhibited ABS
Color	White
Base material	High quality aluminium alloy
Construction	All – weather operation
Mounting Kit	50.8 mm / 2"

### Antenna LNB Electronical Properties

Item	PRO LNB Specification	CPE Compliance
Input Frequency (RF)	5200 ... 5700 MHz legal band	5100 – 5850 extended band
Output Frequency (IF)	1200 ... 1700 MHz	1100 - 1850
LO Frequency	4000 MHz	YES
LO Accuracy	+/- 10 kHz	+/- 100 kHz
LO Frequency Stability (0 ... +40 °C)	+/- 20 kHz	+/- 200 kHz
Phase Noise @ 100 kHz	typ. -100 dBc/Hz	-95dBc/Hz
Noise Figure @ 18°C	typ. 1.1 dB, max. 1.3 dB	YES
Gain	min. 35dB @1 dB compression point	50~60dB
RF Input Level (max.)	1 mW	YES
Input Connector / Impedance	N, female / 50 Ohms	YES
Output Connector / Impedance	N, female / 50 Ohms	F-type 75 Ohm
Supply Voltage	+9 ... +18 V DC	YES
Current Consumption	typ. 180 mA	YES
Case	Milled aluminium case, water resistant	YES
Dimensions in mm	64 x 82 x 22	TBD

For Triple Play Dual antenna, Wimax 3,4-3,8 and ISM 4,9-5,9 please contact **Hypercable**