

GENERAL CATALOGUE

Professional Headend Solution

DESIGNED FOR SOPHISTICATION,
ENGINEERING TO PERFECTION



alpha

WELCOME TO PROFESSIONAL DTV SOLUTION

There are a huge number of DTV products on the market today. But if truly want to be choose, **elpha** 3000 or 5000 series is the only option.

With the cutting edge technology **elpha** result in farmore than mere technical specifications; they are built for you. So, you can fully experience the passion the director put into both Standard Definition (SD) or High-Definition (HD).

The sophisticated DTV headend design and functional to produce superior video image quality that is so real, it will make you forget you are at home. All this done for you, because you want, and will get the best. That, we guarantee.



Designed for sophistication, engineering to perfection

elpha DTV Solution

INTRODUCTION

This catalogue describes the PBSB **elpha** series products for individual receiving, processing and distribution of digital terrestrial and satellite signals.

THE COMPANY

PBSB (Panglima Bidang Sdn. Bhd.) founded in 1996, manages to supply professional quality and install state-of-art products to meet market demands. With over 12 years of expertise in broadcast electronics software and software engineering. PBSB embarks on an advanced design, installation and integration program in the industry of Digital Television (DTV).

PRODUCTS

To committed the development of headed products. The **elpha** products is compliance DVB international standard and CE mark according to the appropriate EN 50083-1, EN 50083-2 and EN 60065 European standards of the European Committee for Electrotechnical Standardization.



Standard Definition

3000 series SD broadcast digital video signals maintain higher picture quality than analog signals because the picture information is digitized so it is not susceptible to manipulation by analog carrier frequency ghosting, noise or interference.



STANDARD DEFINITION

3000 Series



3000 series SD offers high picture quality, natural details, smooth and sharpness from analogue TV. 3000 series SD even free from snowing picture, ghosting, noise or interference and saving transmission bandwidth with it Mpeg-2 video compression technique.



Analogue Noise

Generated by amplifier or active devices.

Digital Signal

Proof from noise generated by active devices.



Analogue Ghosting

Due to TV antenna line-of-sight.

Digital Signal

Proof from TV ghosting



Analogue Interference

Due to active devices or ingress signal.

Digital Signal

Proof from signal interference.



Analogue Snowing

Low signal level.

Digital Signal

Not required works at high signal level.

High Definition

HD is the broadcast standard of the future. HD TV images have much higher resolution 1920 x 1080 pixels than SD quality 720 x 480 pixels on screen. So, Enjoy your favourite movie or sports programme on 5000 series HD and experience excitement like never before.





5000 series HD much higher resolution and use progressive scanning, resulting in a visibly significant increase in picture quality. For example, HDTV has 10 times the screen resolution and 5 times the picture sharpness of analog 480i. With latest H.264 video compression technology HD images can fully display 1920 x 1080 sources, you are able to immerse yourself in the exhilaration of watching action sequences with life-like images and precise details like no other.



Standard Definition
720H x 480V image



Enhanced Definition
1366H x 480V image



High Definition
1920H x 1080V image

Specification Overview

STANDARD DEFINITION

3000 Series



DC H-3000P Transcoder

Specifications

DVB-S (QPSK Demodulation)

- Input Frequency Range C & Ku Band : 950~2150MHz
- Input Level : -25dBm~-65dBm
- Input Impedance : 75 ohm, F type
- Rolling Off Factor : 0.20 or 0.35
- Punctured Rates : 1/2, 2/3, 3/4, 5/6, 6/7, 7/8
- Solomon Decoding : 204, 188, T = 8 & I = 12
- Construction : ABS (White)
- Temperature : 0 °C~60° C

DVB-T (COFDM Demodulation)

- Connector IEC : Female (7/8MHz) or Female
- 1 IF Loop through : Yes
- Frequency Range : 470-862MHz, 174-230MHz
- Input Impedance : -20 to -75dBmV
- Constellation QPSK, : 16-QAM, 64-QAM
- Tuner Bandwidth : 8 MHz
- FFT mode : 2K/8K
- Guard Interval : 1/4, 1/8, 1/16, 1/32, off
- FEC Code Rate : 1/2, 2/3, 3/4, 5/6 and 7/8
- Maximum Input Code Rate : 44.736Mbit/s

General

- Operating Temperature : 0~40
- Storage Temperature : -20~70
- Humidity : 85%
- Power Supply : AC 90-250V, 50Hz/60Hz, 15W
- Dimensions : 240mm x 440mm x 44mm
- Approx Weight : 3kg approximately



DCH-3000EC Mpeg-2 Encoder

Specifications

- Input Format S-Video : SDI and Composite Video
- Video Standard : PAL/NTSC/Secam
- Compression Format : MPEG-2
- Resolution : Full D1 Half D1, SIF, QSIF
- Audio Compression Format : MPEG1 Layer1, Layer2
- Signal Sampling Rate : 32K, 44.1K, 48K
- Compression Rate : 32,64,128,192,256,384Kbps
- Input Interface : 600 Ohm , balance XRL female
- ASI Input Interface : 75 Ohm BNC female
- ASI Input Effective Data Rate : 100Mbps
- Packet Length : 188/204 Bytes
- Signal Level : 300mV min.
- SI/SPI Mapping/Generation : Auto or manual
- ASI Output Interface : 75 Ohm BNC female
- ASI Output Effective Data Rate : 100Mbps
- Packet Length : 188/204 Bytes
- Signal Level : 800 80mV
- IP Streaming Output : Interface RJ45 100 Base-T
- Effective Data Transmission Rate : 80Mbps
- Protocol UDP or RTP : Unicast or Multicast
- Multicast mode : DVB or IPTV

General

- Operating Temperature : 0~40
- Storage Temperature : -20~70
- Humidity : 85%
- Power Supply : AC 90-250V, 50Hz/60Hz, 15W
- Dimensions : 240mm x 440mm x 44mm
- Approx Weight : 3Kg approximately



DCH-3000TM Transmodulator

Specifications

- Modulation : QAM Modulation
- Input Bit rate : 17Mbps (PAL)
- QAM mode : 16, 32, 64, 128, 256 QAM
- Bandwidth 6 MHz, 7 MHz or 8 MHz
- FEC code rate : 1/2, 2/3, 3/4, 5/6, 7/8; K=7
- Input Bit rate : 17Mbps (PAL)
- Input Frequency : 50~ 860MHz
- Input Level : -15 15dBmV
- Input Impedance : 75 Ohm , F-type
- Out put level : 100~113 dB adjustable
- RF Harmonics and Spurious : >60dBc
- Output return loss : 14dB

ASI

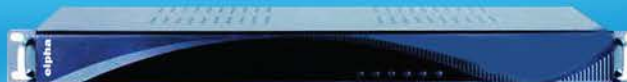
- Connector : 75 Ohm BNC
- Data Rate : 270Mb/s
- Available Bit Rate : 1M~54Mb/s
- Data Mode : BYTE or BURST
- Packet Length : 188 or 204 byte
- Signal Level : 800mV
- Return Loss : >10dB

General

- Operating Temperature : 0~45
- Storage Temperature : -20~70
- Humidity : <85%
- Power Supply : AC 90~260V 50Hz~60Hz, 45W
- Dimensions : 483mm x 400mm x 44mm
- Weight : 6Kg

Specification Overview

HIGH DEFINITION
5000 Series



DCH-5000P Transcoder

Specifications

DVB-S (8PSK/ QPSK Demodulation)

- Input Frequency Range C & Ku Band : 950~2150MHz
- Input Level : -25dBm~-65dBm
- Input Impedance : 75 ohm, F type
- Symbol Rate : 2~45Mb/s (SCPC or MCPC)
- Rolling Off Factor : 0.20 or 0.35
- Punctured Rates : 1/2, 2/3, 3/4, 5/6, 6/7, 7/8
- Solomon Decoding : 204, 188, T = 8 & I = 12

DVB-T (COFDM Demodulation)

- Connector IEC : Female (7/8MHz) or F Female
- 1 IF Loop through : Yes
- Frequency Range : 470-862MHz, 174-230MHz
- Input Impedance : 75 unbalanced
- Signal Input Level : -20 to -75dBmV
- Constellation QPSK : 16-QAM, 64-QAM
- Tuner Bandwidth : 8 MHz
- FFT mode : 2K/8K
- Guard Interval : 1/4, 1/8, 1/16, 1/32, off
- FEC Code Rate : 1/2, 2/3, 3/4, 5/6 and 7/8
- Maximum Input Code Rate : 44.736Mbit/s

General

- Operating Temperature : 0~40
- Storage Temperature : -20~70
- Humidity : 85%
- Power Supply : AC 90-250V, 50Hz/60Hz, 15W
- Dimensions : 240mm x 440mm x 44mm
- Approx Weight : 3Kg approximately

DCH-5000EC H.264 Encoder

Specifications

- Input Format : HD-SDI, HDMI, YPbPr, RGB
- Video Standard : PAL/NTSC/Secam
- Compression Format : H.264
- Resolution : Full D1, Half D1, SIF, QSIF
- Audio Compression Format : MPEG1 Layer1, Layer2
- Signal Sampling Rate : 32K, 44.1K, 48K
- Compression Rate : 32, 64, 128, 192, 256, 384Kbps
- Input Interface : 600 Ohm , balance XRL female
- ASI Input Interface : 75 Ohm BNC female
- ASI Input Effective Data Rate : 100Mbps
- Packet Length : 188/204 Bytes
- Signal Level : 300mV min.
- SI/SPI Mapping/Generation : Auto or manual
- ASI Output Interface : 75 Ohm BNC female
- ASI Output Effective Data Rate : 100Mbps
- Packet Length : 188/204 Bytes
- Signal Level : 800 80mV
- IP Streaming Output : Interface RJ45 100 Base-T
- Effective Data Transmission Rate : 80Mbps
- Protocol UDP or RTP : Unicast or Multicast
- Multicast mode : DVB or IPTV

General

- Operating Temperature : 0~40
- Storage Temperature : -20~70 Celcius
- Humidity : 85%
- Power Supply AC : 90-250V, 50Hz/60Hz, 15W
- Dimensions : 240mm x 440mm x 44mm
- Approx Weight : 3Kg approximately

DCH-5000TM Transmodulator

Specifications

DVB-C (QAM Demodulation)

- Output frequency range : 48~860MHz
- Output frequency : Step by 10Hz
- Output level : 95~115dB V
- Output level : adjustment Step by 1dB
- Output impedance : 75 Ohm F type
- Output return loss : 12dB min.
- Spurious rejection : 60dBc min.
- Output frequency accuracy VHF : 5KHz, UHF: 10KHz

IF Output

- Output frequency : 36MHz
- Output level : 90dB V
- Output impedance : 75 Ohm F-female

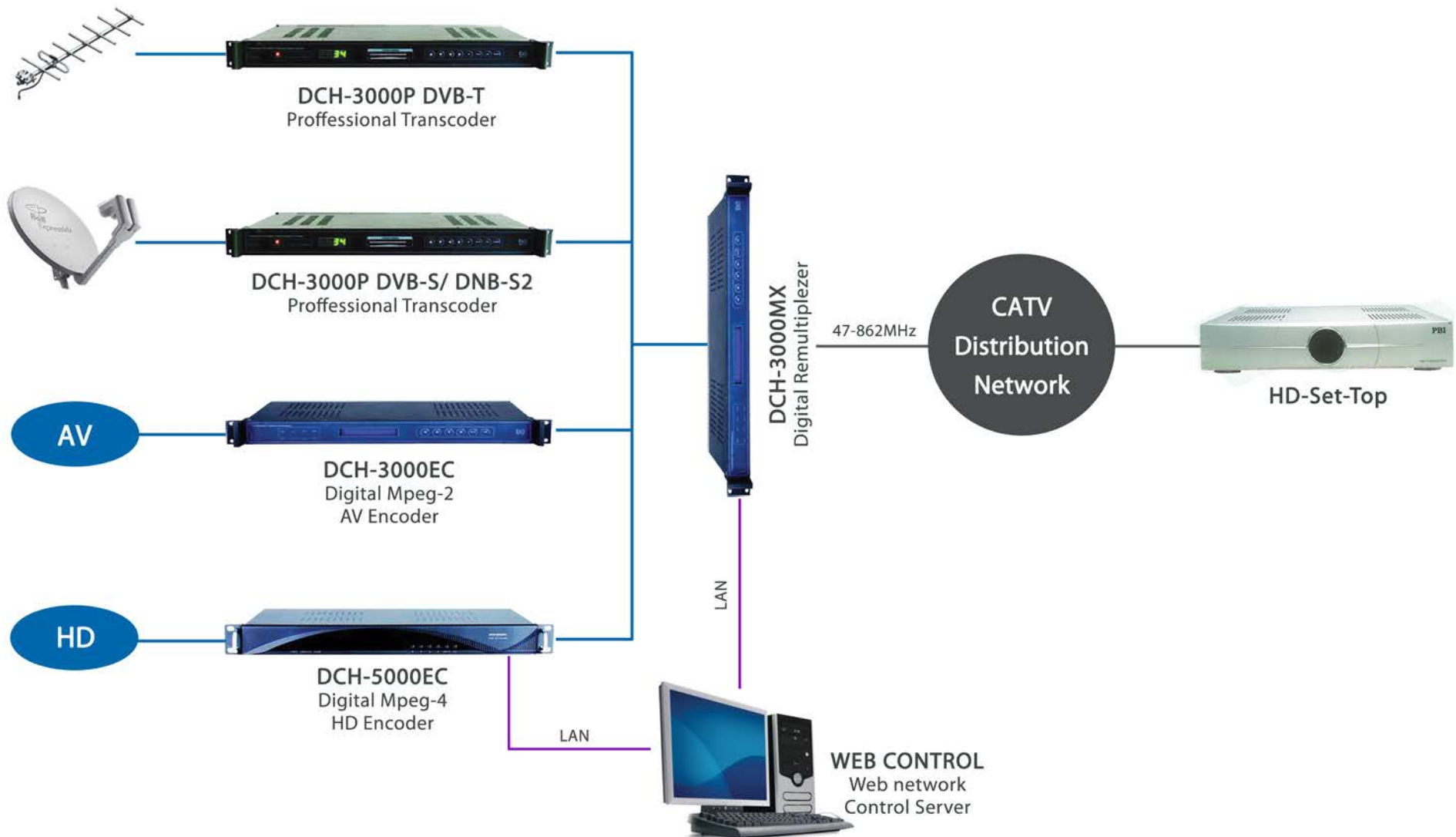
DVB-C QAM Modulation

- Constellation : 16, 32, 64, 128 or 256 QAM
- Symbol rate range : 2~7.2MS/sec
- MER : 36dB min.
- Spectrum inversion : Yes

General

- Operating temperature : 0-45
- Storage temperature : -20 70 Celcius
- Humidity : < 85%
- Power supply : AC 90V 260V 50Hz/60Hz
- Dimensions : 44mm x 482mm x 430mm
- Approximate Net Weight : 6Kg

Total Solution DTV System Diagram



elphaTM



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