

Intelligent Modular Synchronization

BPE IMS Module for Standard Output Signals:
10MHz, PPS, TC AM/DCLS, 2.048MHz, F_Synth.



Progr. Pulses (PPM, PPH, PPS, DCF77-SIM ...)

PPS, 10MHz, IRIG DCLS, IRIG AM, 2,048MHz

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Basic Port Expansion

The BPE module uses unmodified standard signals provided by backplane.

In contrast to the CPE modules, the BPE cards do not have any setting options. The card distributes the signals from the pre-connected reference clock (GPS, GNS, PZF or TCR) or the signals from the upstream signal distribution unit (SDI, N2X) for our MDU systems. A BPE module cannot be configured directly, for example via the web interface. The outputs are set via a solder bridge or by jumpers.

If certain pulses, timecodes or frequencies has to be available at the BPE output sockets, you have configure this settings via the pre-connected reference module (in the case of redundant receiver solutions via the RSC changeover module). Please note, that these settings are available on all BPE modules installed in this system. If other or different signals are required, the use of configurable CPE modules is necessary.

IMS-BPE available signals:

- 1PPS, 10 MHz square-wave
- 2.048 MHz square-wave
- IRIG DCLS+AM (B, AFNOR, IEEE1344 / C37.118)
- Programmable Pulses provided by clock module
- DCF77 Simulation Signal



Available BPE Modules

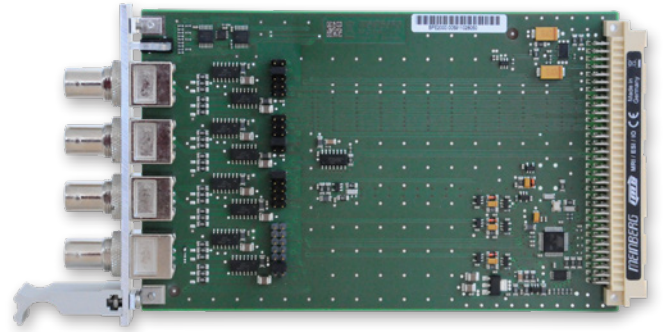
Module Name	Connectors	Signal Outputs
Frontend - Backend Modules		
BPE-1040	4 x BNC	4 x TC AM
BPE-1060	4 x BNC	4 x DCF77 (SIM)
Eurocards		
BPE-2000	4 x BNC	PPS, 10MHz, TC DCLS, TC AM
BPE-2010	4 x BNC	4 x PPS
BPE-2020	4 x BNC	4 x 10MHz
BPE-2030	4 x BNC	4 x TC DCLS
BPE-2050	4 x BNC	3 x TC DCLS; 1 x TC AM
BPE-2080	4 x BNC	4 x 2048kHz
BPE-2090	4 x BNC	4 x Progr. Pulses
BPE-2500	4 x 2pin DFK; 1 x BNC	4 x Progr. Pulses Photo Mos; 1 x TC AM
BPE-2600	4 x 2pin DFK	PPS, 10MHz, TC DCLS, TC AM
BPE-2640	4 x 2pin DFK	4 x Progr. Pulses TTL
BPE-2700	4 x 2pin DFK; 1 x BNC	4 x Progr. Pulses Opto Coupler; 1 x TC AM
Fiber Optical Outputs		
BPE-5000	4 x FO-ST (Multimode)	PPS, 10MHz, TC DCLS, 2048kHz
BPE-5010	4 x FO-ST (Multimode)	4 x PPS
BPE-5020	4 x FO-ST (Multimode)	4 x 10MHz
BPE-5030	4 x FO-ST (Multimode)	4 x TC DCLS
BPE-5032	4 x FO-ST (Singlemode)	4 x TC DCLS
BPE-5080	4 x FO-ST (Multimode)	4 x 2048kHz
BPE-5090	4 x FO-ST (Multimode)	4 x Progr. Pulses
BPE-6042	2 x DMC (16pin)	10 x Progr. Pulses - RS422



To simplify ordering a single module there is a printed code on top of the module plate. The configurations of the BPE modules are marked according to the following scheme:

For Example: BPE-2020

BPE stands for Backend Port Expander - the first two digits, in this case 20, are available for the physical connector types (BNC female) and the last digits, in this case 20, for the configuration of the available output signals (4 x 10MHz).



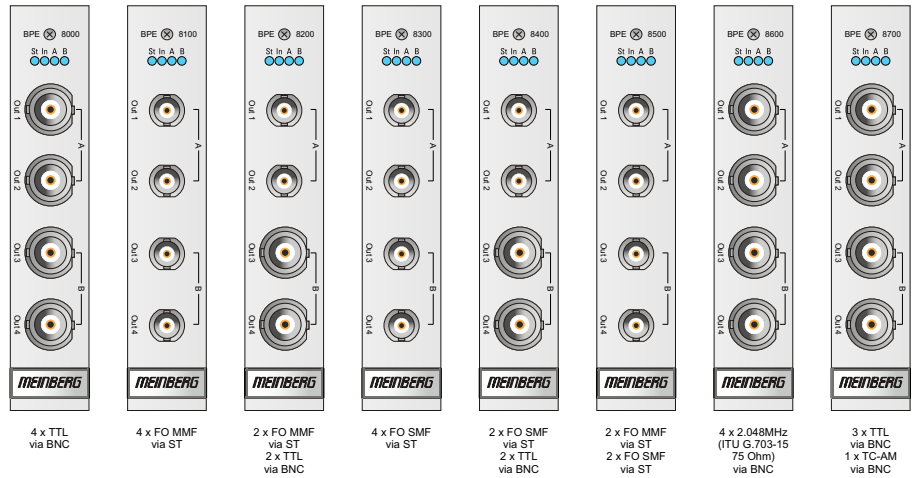
BPE Connectors (2xxx Series)

Digit 1 + 2	Electrical Connector Types	
10	4 x BNC female (Backend/Frontend)	
20	4 x BNC female Eurocard output signals are pre-configured at factory	
25 / 27	4 x 2pin DFK Connector, 1 x BNC female	
26	4 x 2pin DFK Connector	
30	2 x DSUB-9 serial Connector	
50	4 x FO Connector	
60	2 x DMC Connector	



BPE 8xxx Series

The BPE8000 series with eight different BNC and ST connection combinations provides flexible configurations of output signals through the web interface of your IMS system. As requirements of application environments change, flexible and customizable combinations of output signals can easily be set up. An electronically controlled switch (multiplexer) on the module board allows the selection of signals distributed by the receiver module via the backplane.



BPE Module	Connectors	Signal Outputs
BPE8000	4x BNC female	TTL
BPE8100	4x ST	Fiber Optic - Multimode
BPE8200	2x ST, 2x BNC female	2x Fiber Optic - Multimode, 2x TTL
BPE8300	4x ST	Fiber Optic - Singlemode
BPE8400	2x ST, 2x BNC female	2x Fiber Optic - Singlemode, 2x TTL
BPE8500	4x ST	2x Fiber Optic - Multimode, 2x Fiber Optic - Singlemode
BPE8600	4x BNC female	2048 kHz (ITU G.703-15 - 75 Ω unbalanced) *
BPE8700	4x BNC female	3x TTL, 1x Modulated Time Code - TC-AM **

* Fixed outputs, no signal selection possible

** BNC sockets Out 1 - Out 3 are freely programmable, Out 4 is permanently set to TC AM

Technical Specifications BPE

Status Info	LED Status Indicators <ul style="list-style-type: none"> • LED St: BPE Status • LED In: Status of the backplane's output signals • LED A: BPE status - output signals (1 + 2) • LED B: BPE status - output signals (3 + 4)
Electrical connectors	96-pin VG-rail DIN 41612
Power supply	+5V DC
Current consumption	5 V +-5%, 150 mA
Ambient temperature	0 ... 50°C / 32 ... 122°F
Humidity	Max. 85%
Warranty	Three-Year Warranty
RoHS-Status of the product	This product is fully RoHS compliant
WEEE status of the product	This product is handled as a B2B category product. In order to secure a WEEE compliant waste disposal it has to be returned to the manufacturer. Any transportation expenses for returning this product (at its end of life) have to be incurred by the end user, whereas Meinberg will bear the costs for the waste disposal itself.

