

## HIGH PERFORMANCE DUAL TRUE DIVERSITY RECEIVER - DIGITAL AUDIO DSP BASED



- ✓ **Wider Oled Display!**
- ✓ **Optimized button layout!**
- ✓ **Simplified software!**
- ✓ **SND/D ratio improved on S2**

### Main Features



- Up to 240 MHz bandwidth in 470/798 MHz range
- **Modular stand-alone or slot-in format**
- 40 groups of 60 frequencies fully user programmable
- Broadcast superlative quality of any audio-signal transposition
- **DSP fully digital audio processing** for broadcast superlative quality and multicompander compatibility
- Infrared interface for programming and transmitter synchronization
- Easy setup and operation thru a OLED display
- **Wisycom exclusive digital sub-carrier telemetry technology** allows:
  - ⇒ remote TX battery monitoring
  - ⇒ advanced tone-squelch operating
  - ⇒ PTT function (An optional back-panel module is available, with the secondary intercom output)
- Exceptional sturdiness and absolute reliability even in very congested environments
- Amazing small size
- Very easy and pleasant use with easy status indication by means of RGB LEDs
- New DSP profile to increase audio recording quality up to 15dB

### GENERAL DESCRIPTION

MCR42 is a camera dual true diversity wireless-microphone receiver system in a modular stand-alone or slot-in configuration (compatible with most camera's slot).

- ⇒ camera "slot-in" receiver (for Ikegami, Philips, Sony cameras)
- ⇒ camera "stand-alone" very small dual true-diversity receiver, powered by 5 ÷ 18 Vdc external source

All audio processing is managed by a powerful DSP to allow multicompanying, audio enhancement and a digital control data. Very easy and versatile thanks to its:

- Oled display,
- navigation button controls,
- infrared sinc and programming,
- automatic scan.



## TECHNICAL DATA

• Frequency ranges [1]	: <b>N</b> ⇒ option 470 ÷ 700 MHz <b>M</b> ⇒ option 566 ÷ 798 MHz
• Switchable channels	: 40 groups of 60 channels fully user progr.
• Switching-window	: Up 240 MHz
• Frequencies	: Microprocessor controlled frequency synthesizer circuit, with 25 kHz minimum step. Frequencies is easily PC reprogrammed with optional UPK300E/UPKmini programmer.
• Frequency error	: < ± 2.5 ppm, in the rated temperature range
• Temperature range	: -10 ÷ +55 °C
• Modulation	: FM, with de-emphasis.
• Nominal deviation	: ±40 kHz (Max. operating dev. = ± 60 kHz).
• "A" / "B" antenna inputs	: With sturdy connectors.
• Antenna input impedance	: 50 ohm sma type (SWR < 1:2; typ. 1:1.4).
• Sensitivity	: ⇒ 2 µV ( 0 dBµV), for SND/N > 58 dB; ⇒ 5 µV (14 dBµV), for SND/N > 98 dB. in the whole switching-window [2].
• Amplitude response	: < 0.5 dB (RF input sig.: 6 dBµV ÷ 100 dBµV).
• Co-channel rejection	: > 2.5 dB.
• Adjacent chan. selectivity	: > 80 dB typical (for ch. spacing ≥ 400 kHz).
• Spurious rec. rejection	: > 100 dB.
• IF image rejection	: > 90 dB.
• Intermod. rejection	: > 76 dB.
• IIP3	: > +10 dBm typical.
• Spurious emissions	: < 2 nW (typical = 0.1 pW).
• Noise Reduction system	: ENR / ENR-1.2 (Wisycor Extended-NR) , noise optimized ENC / ENC-1.2 (Wisycor Extended-NC), voice optimized & with reduced pre-emphasis ⇒ Others, compatible with most systems, thru an internal DSP emulation of SA572, SA575 and Rms envelope compander chip set, fully user programmable
• AF bandwidth	: 30 Hz ÷ 20 kHz.
• Frequency response	: ± 0.5 dB in the 30 Hz ÷ 19 kHz range.
• Distortion	: • MCR42S: 0.3 % typical • MCR42S2: 0.1 % typical
• SND/D ratio (Analogue)	: 110 dB typical [2]
• SND/D ratio (AES3)	: • MCR42S: >125 dB typical <sup>2</sup> • MCR42S2: >140 dB typical <sup>2</sup>
POWER LEDs	: (OLD display) 2 multicolour RGB LEDs to easy indicate Rx1 & Rx2 power status (NEW display) 1 multicolour RGB LEDs for the power status of the receiver
• RF LEDs	: 2 multicolour RGB LEDs to easy indicates Rx1 & Rx2 RF status. Always on in normal operation:
• AUDIO LEDs	: 2 multicolour RGB LEDs to easy indicates Rx1 & Rx2 audio status:
• Front buttons	: Simple operation with 4 buttons to quickly monitor and setup the receiver. One touch function for a frequency scan and sync function.
• Powering	: - External = 5 ÷ 18 Vdc (1.5 W max). - Autonomous. = with optional BCA 42 Battery Module (5 x IEC-LR6 1.5V size-AA alkaline or rechargeable elements).
• Dimensions	: "Slot-in" execution= 68 x 18 x 115 mm, "Stand-alone" exec.= 68 x 18 x 135mm.
• Weight	: 180 g approx.

### Analogue Audio Output

- Audio line-output 1 & 2 : Electronically balanced on two 3 pin mini-XLR Female connector
- Audio line-output level : Adjustable in a one dB step between:  
-30dBu (only MCR42S)/-18dBu and +6 dBu (nominal) and MAX +12 dBu (peak deviation)
- Audio line-output imped.: ≤ 200 ohm.

### Push to Talk (PTT) Audio Output

- PTT line-output 1 & 2 : Electronically balanced on a 5 pin mini-XLR Male connector

### Digital Audio Output

- Digital line-output 1 & 2 : Electronically balanced on 3 pin mini-XLR Male connector
- Digital line-output : AES3 @ 48 kHz

**In compliance with** : USA: **FC**, 47 CFR 15 Subpart B  
CAN RSS-Gen/CNR-Gen

ETSI specifications: ETSI 300 422

NOTE [2]: RMS value, 22 Hz / 22 kHz, unweight.

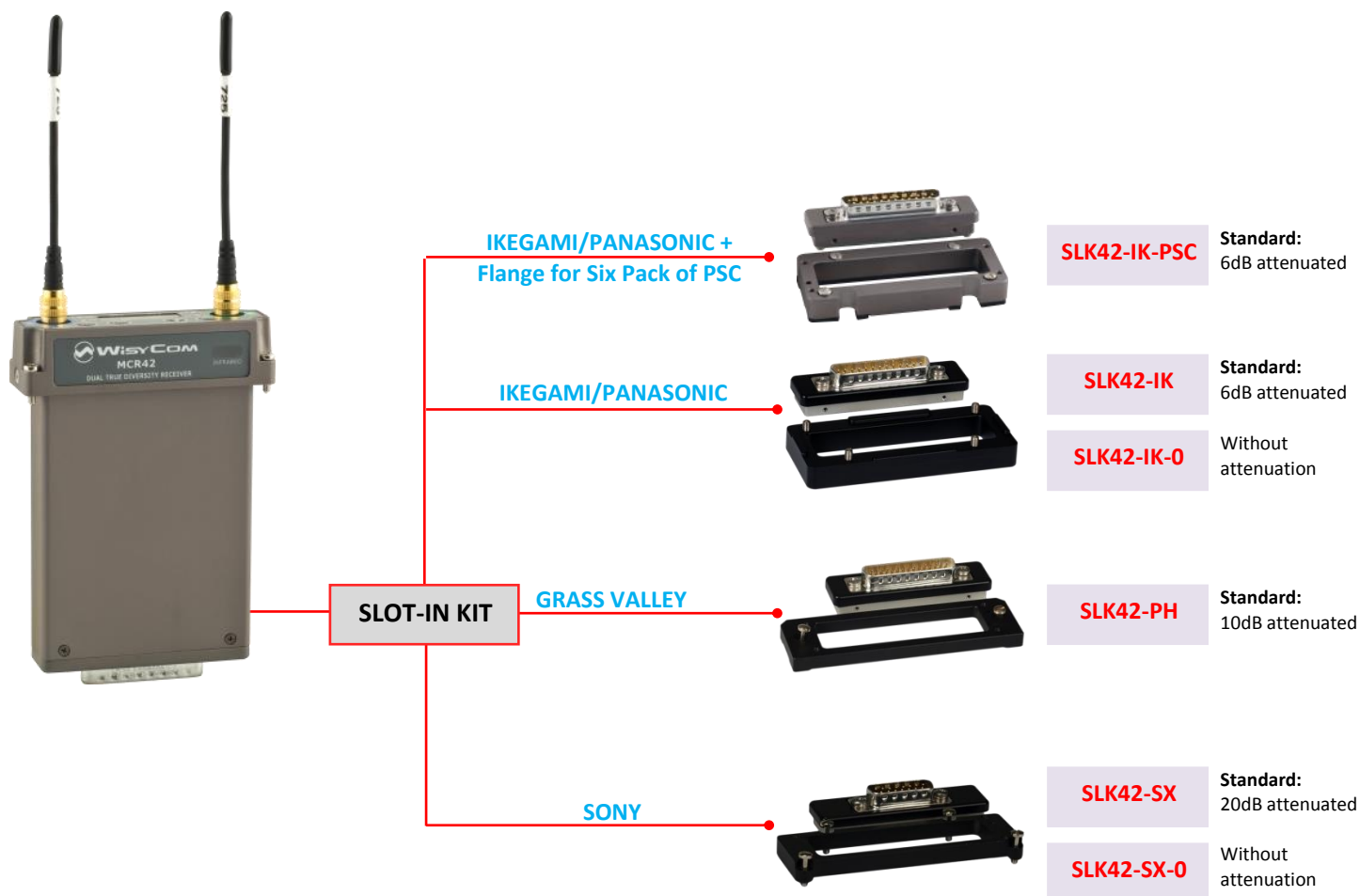
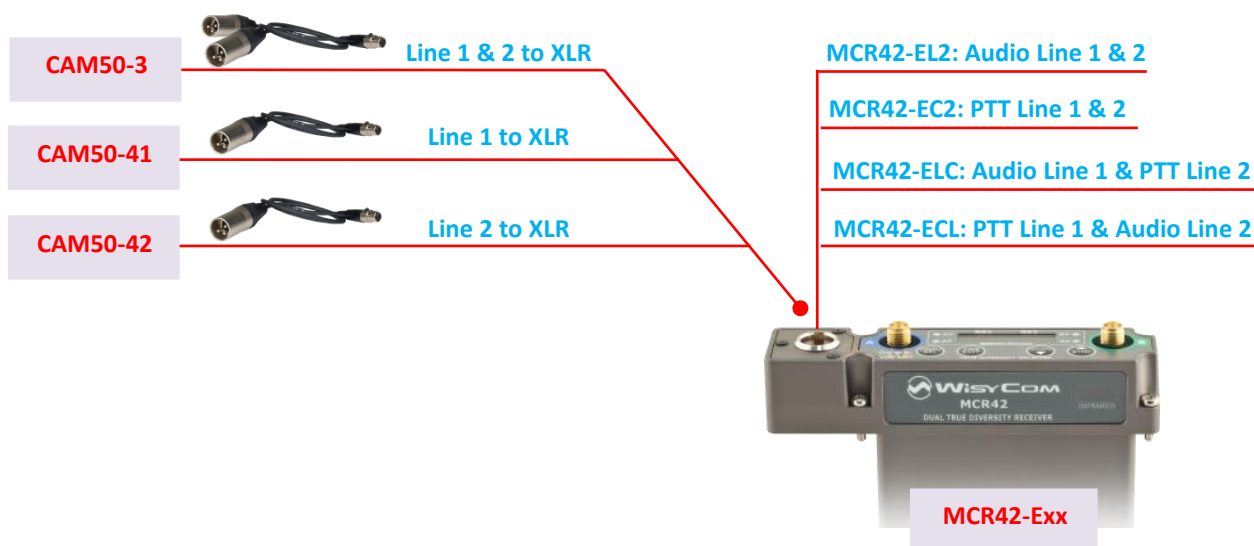
## ➤ TOP FEED OPTIONS & SLOT IN - ACCESSORIES

MCR42 has 4 main audio sources:

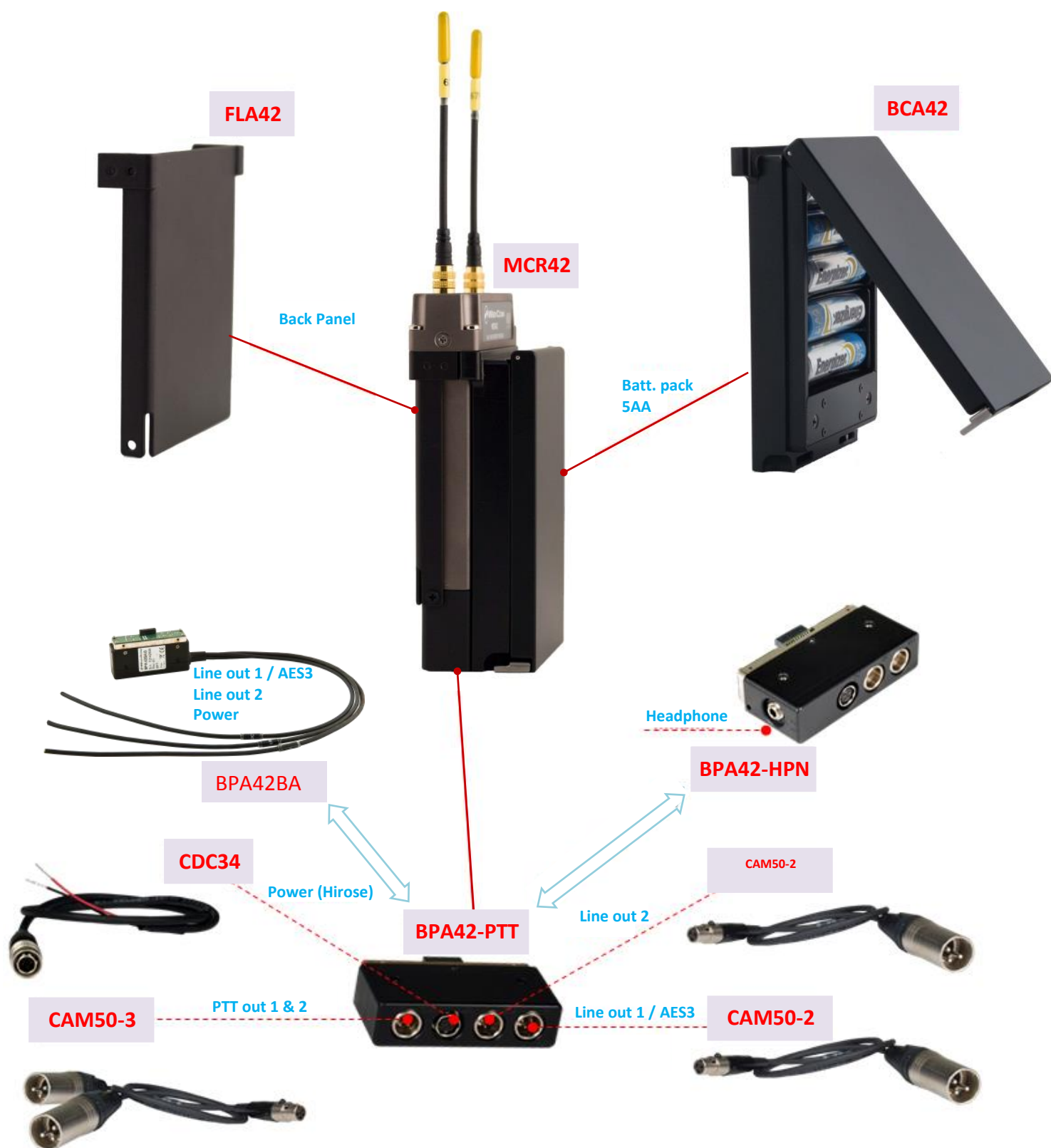
- Audio Line 1&2
- AES3 (audio 1&2, 48kHz 24bit)
- PTT (push to talk) 1&2
- Headphone(left/right)

Top feed can bring on top on a mini-XLR 5M connector two balanced audio called line1 and line2.

MCR42-Exx can then be in factory configure to connect on top (line 1 & 2) the audio source you need.



➤ **STAND-ALONE – ACCESSORIES**



With the standalone socket BPA42-PTT and BPA42-HPN is available the option OP-BPA42-R22 to have an attenuation of -22dB in Line 1 and Line 2 outputs.

**NOTE:** With this option, it's not possible to use the AES3 output in the standalone socket and it's not guaranteed the correct functionality of the AES3 output in the top feed.