



WMS450/470 MULTICHANNEL SETUP GUIDE

SCHEMATIC & PART LIST 1-16 CHANNEL



Introduction

The following schematics will help you to easily set up multi channel systems.

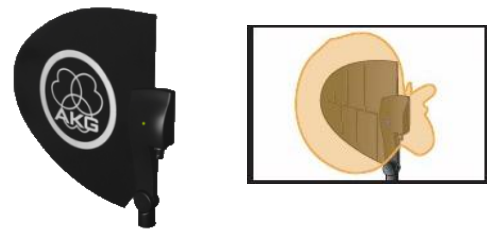
Please use the equipment that is specified in the schematics only.

For your convenience and understanding, we've added technical information and part lists. You can use this part lists when ordering the system you require! If you need any help regarding the frequency regulations or if your particular situation doesn't allow the installation of a standard system, please do not hesitate to contact us at sales@akg.com.

All the WMS450/470 systems in this document are designed with active antennas that can be used in all venues with a 20m RG58 antenna cable.

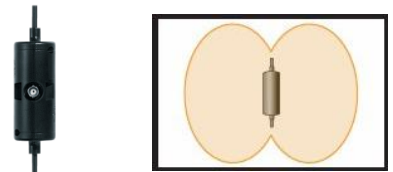
SRA2 B/W active directional antenna

For venues (tour sound & installs) cover a large area (up to 150m, 500ft) like music halls, stadiums and other open air applications.



RA4000 B/W active omni-directional antenna

For venues without a designated transmitter area and up to 100m/330ft (free viewing direction). Ideal for conference rooms, multi purpose halls, houses of worship etc.



Content

| General Information | | | Page |
|----------------------------|-------------|--|-------------|
| Receiver/Antenna Placement | Information | | 4 |
| Squelch | Information | | 4 |
| Intermodulation | Information | | 4 |
| Cable Attenuation | Information | | 5 |
| PS4000 dip switch | Information | | 5 |
| AB4000 dip switch | Information | | 5 |
| PS4000 dip Switch Matrix | Information | | 6 |
| Required Component Matrix | Information | | 7 |
| Glossar | Information | | 8 |

| WMS System | Antenna Type | | Page |
|----------------------|---------------------|-----------------------|-------------|
| 1 Channel | SRA2 B/W | Schematic / Part List | 9 |
| 1 Channel | RA4000 B/W | Schematic / Part List | 11 |
| 2 Channel no PS4000W | SRA2 B/W | Schematic / Part List | 13 |
| 2 Channel no PS4000W | RA4000 B/W | Schematic / Part List | 15 |
| 2 Channel no PSU4000 | SRA2 B/W | Schematic / Part List | 17 |
| 2 Channel no PSU4000 | RA4000 B/W | Schematic / Part List | 19 |
| 4 Channel no PSU4000 | SRA2 B/W | Schematic / Part List | 21 |
| 4 Channel no PSU4000 | RA4000 B/W | Schematic / Part List | 23 |
| 5 Channel no PSU4000 | SRA2 B/W | Schematic / Part List | 25 |
| 5 Channel no PSU4000 | RA4000 B/W | Schematic / Part List | 27 |
| 6 Channel no PSU4000 | SRA2 B/W | Schematic / Part List | 29 |
| 6 Channel no PSU4000 | RA4000 B/W | Schematic / Part List | 31 |
| 8 Channel no PSU4000 | SRA2 B/W | Schematic / Part List | 33 |
| 8 Channel no PSU4000 | RA4000 B/W | Schematic / Part List | 35 |
| 9 Channel no PSU4000 | SRA2 B/W | Schematic / Part List | 37 |
| 9 Channel no PSU4000 | RA4000 B/W | Schematic / Part List | 39 |
| 10 Channel | SRA2 B/W | Schematic / Part List | 41 |
| 10 Channel | RA4000 B/W | Schematic / Part List | 43 |
| 12 Channel | SRA2 B/W | Schematic / Part List | 45 |
| 12 Channel | RA4000 B/W | Schematic / Part List | 47 |
| 16 Channel | SRA2 B/W | Schematic / Part List | 49 |
| 16 Channel | RA4000 B/W | Schematic / Part List | 51 |

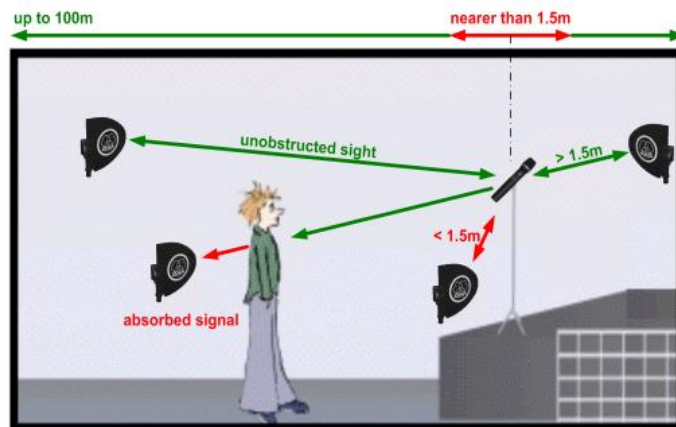
Technical Information

Wireless Basics

- Every wireless microphone system has to operate on **one** specific frequency
- Transmitter and receiver of a system need to work on the **same** frequency
- Two transmitters **cannot** be used with one receiver at the same time

Receiver/Antenna Placement

- Direct line of sight between transmitter and receiver antenna
- Keep the receiver/antennas at least 5 ft. (1.5 m) away from all transmitters
- Keep the receiver antennas at least 5 ft. (1.5 m) away from any big metal object, wire (particularly wire mesh) or sheet metal structures, walls, ceilings, etc.
- Do not place the antennas in closed areas (behind walls)
- Place the receiver at least 5 ft. (1.5 m) away from any equipment that may emit RF radiation such as lighting racks, fluorescent lamps, digital effect units, or PCs



Squelch

- Standard: Carrier squelch, manual
 - Operates strictly on the signal strength of the signal.
 - If received signal strength drops under the adjustable squelch threshold the audio output is muted
- Advanced: Tone Code (only WMS470/4500)
 - The audio turns on only in the presence of the correct tone code and an adequate signal strength (-100dbm)
 - Lock out of all signals except ones with the correct key.

Intermodulation

Intermodulation is the result of two or more signals of different frequencies being mixed together, forming additional signals that are not harmonic frequencies of either.

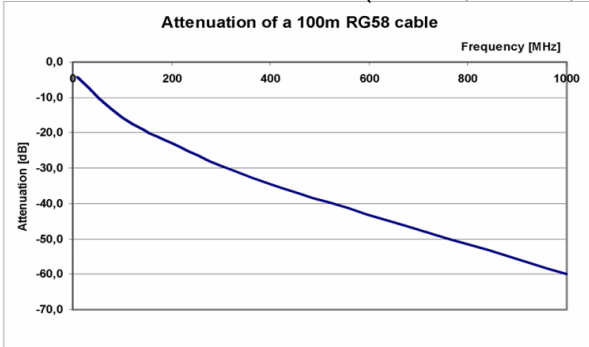
By using more than one transmitter simultaneously at the same location, intermodulation happens in the receiver and/or transmitter. These intermodulation products are generated in the bandwidth that you are using.

To avoid intermodulating frequencies, we offer pre-calculated frequencies as presets in the SR450 and SR4500 Receiver. Please, make sure that when setting up a multi channel system, all your receivers are set to the same country preset (NAME) and group. Use the automatic channel function (auto setup) to scan for free frequencies in your venue.

Cable Attenuation

To obtain the best sound possible, you need to have the right RF input level throughout your signal chain. Premium quality wireless systems like the WMS450/470 and WMS4500, offer you adjustable RF-level settings that guarantee to maximise operating distance even when using different cable lengths and different types of cable! For this purpose, AKG's PS4000W antenna splitter, has 3 dip switches that you'll find on the right side of its front panel, behind the AKG logo.

RG58 Cable Attenuation (MKPS, MKA5, MKA20 antenna cable)

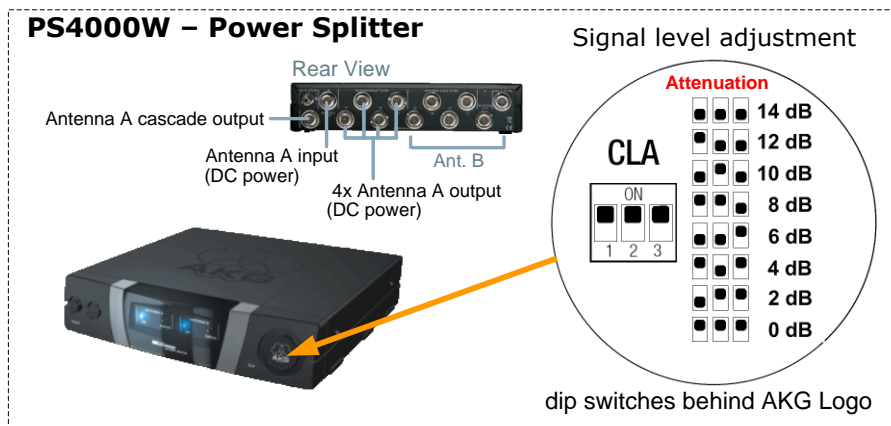


| frequency MHz | Dämpfung dB/100m | Dämpfung dB/1m |
|------------------|---------------------|-------------------|
| 650 | -45,13 | -0,45 |
| 700 | -47,25 | -0,47 |
| 750 | -49,38 | -0,49 |
| 800 | -51,50 | -0,52 |
| 850 | -53,63 | -0,54 |

~50dB/100m

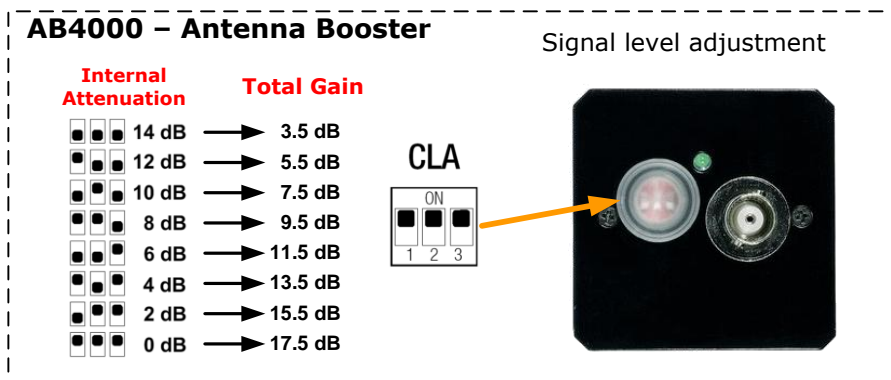
PS4000 W dip switch

These switches reduce the input RF level of the antenna input between 0 dB and 14 dB. Levels of all antenna outputs and the cascade (link) output will be reduced.




























AB4000 dip switch

The AB4000 has a fix 17.5dB amplifier in the output stage. The dip switches reduce the input RF level of the AB4000 from 0 dB and -14 dB. AB4000 gets the DC power from the PS4000W or an ASU4000 unit via the antenna cable



PS4000 W dip switch matrix (RG58 cable)

| Antenna type & Gain Cable type & Length | Passiv Antennas | | | Active Antennas | |
|---|---|---|---|--|--|
| |  1/4 wave UHF Antenna 0 dB |  RA4000 W 1 dB |  SRA2 W 4-6 dB |  RA4000 BW 17 dB |  SRA2 BW 21.5 dB |
| MKPS 0.65m / 2ft | 0 dB  | 0 dB  | -4 dB  | | |
| MKA 5 5m / 16ft | 0 dB  | 0 dB  | -2 dB  | | |
| MKA 20 20m / 66ft | | | | -8 dB  | -12 dB  |
| MKA 5 + MKA 20 25m / 82ft | | | | -6 dB  | -10 dB  |
| 2x MKA 20 40m / 132ft | | | | 0 dB  | -2 dB  |
| 3x MKA 20 60m / 198ft Antenna Booster AB4000 necessary ! | | | | RA4000 BW ↓ 2x MKA 20 ↓ AB4000 0 dB  ↓ 1x MKA 20 ↓ PS4000 -4 dB  | SRA2 BW ↓ 2x MKA 20 ↓ AB4000 0 dB  ↓ 1x MKA 20 ↓ PS4000 -8 dB  |
| 4x MKA 20 80m / 264ft Antenna Booster AB4000 necessary ! | | | | RA4000 BW ↓ 2x MKA 20 ↓ AB4000 0 dB  ↓ 2x MKA 20 ↓ PS4000 0 dB  | SRA2 BW ↓ 2x MKA 20 ↓ AB4000 0 dB  ↓ 2x MKA 20 ↓ PS4000 0 dB  |

You have to use these PS4000 W dip switch settings for all PS4000 W **directly connected to antennas.**

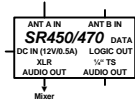
All PS4000 W connected to a PS4000 W link output (cascade) have dip switch setting ON/ON/ON (0dB)



WMS450/470/4500 Component Matrix

| WMS Receiver | 2x Antennas (e.g. SRA2 B/W or RA4000 B/W) 2x MKA 20 (see PS4000W dip switch matrix) plus... | | | | | | | | |
|--------------|---|---------|------|----------------|------------|-------------|-------------------------------------|---------|------------|
| | Antenna Components | | | Power Supplies | | | PC Monitoring with System Architect | | |
| | PS4000 | ZAPD-21 | MKPS | PSU4000 | AC12 500mA | AC12 2000mA | HUB4000Q | PSU4000 | AC12 500mA |
| 2 | 1 | 0 | 4 | 0 | 0 | 1 | 1 | 0 | 1 |
| 3 | 1 | 0 | 6 | 0 | 0 | 1 | 1 | 0 | 1 |
| 4 | 1 | 0 | 8 | 0 | 0 | 1 | 1 | 0 | 1 |
| 5 | 1 | 0 | 10 | 0 | 1 | 1 | 1 | 0 | 1 |
| 6 | 2 | 0 | 14 | 0 | 0 | 2 | 1 | 0 | 1 |
| 7 | 2 | 0 | 16 | 0 | 0 | 2 | 1 | 0 | 1 |
| 8 | 2 | 0 | 18 | 0 | 0 | 2 | 1 | 0 | 1 |
| 9 | 2 | 0 | 20 | 0 | 1 | 2 | 2 | 0 | 1 |
| 10 | 3 | 0 | 24 | 1 | 0 | 0 | 2 | 0 | 1 |
| 11 | 3 | 0 | 26 | 1 | 0 | 0 | 2 | 0 | 1 |
| 12 | 3 | 0 | 28 | 1 | 0 | 0 | 2 | 0 | 1 |
| 13 | 3 | 0 | 30 | 1 | 1 | 0 | 2 | 0 | 1 |
| 14 | 4 | 2 | 36 | 2 | 0 | 0 | 2 | 0 | 0 |
| 15 | 4 | 2 | 38 | 2 | 0 | 0 | 2 | 0 | 0 |
| 16 | 4 | 2 | 40 | 2 | 0 | 0 | 2 | 0 | 0 |
| 17 | 4 | 2 | 42 | 2 | 0 | 0 | 3 | 0 | 2 |
| 18 | 4 | 2 | 44 | 2 | 0 | 0 | 3 | 1 | 0 |
| 19 | 5 | 2 | 48 | 2 | 0 | 0 | 3 | 0 | 2 |
| 20 | 5 | 2 | 50 | 2 | 0 | 0 | 3 | 0 | 2 |
| 21 | 5 | 2 | 52 | 2 | 0 | 0 | 3 | 1 | 0 |
| 22 | 5 | 2 | 54 | 2 | 1 | 0 | 3 | 1 | 0 |
| 23 | 6 | 2 | 58 | 2 | 0 | 0 | 3 | 1 | 0 |
| 24 | 6 | 2 | 60 | 2 | 0 | 0 | 3 | 1 | 0 |
| 25 | 6 | 2 | 62 | 2 | 1 | 0 | 4 | 1 | 1 |
| 26 | 6 | 2 | 64 | 2 | 2 | 0 | 4 | 1 | 1 |
| 32 | 9 | 0 | 80 | 3 | 0 | 0 | 4 | 1 | 1 |
| 36 | 9 | 0 | 88 | 3 | 0 | 0 | 5 | 1 | 2 |
| 48 | 13 | 0 | 120 | 5 | 0 | 0 | 6 | 1 | 1 |
| 52 | 13 | 0 | 128 | 5 | 0 | 0 | 7 | 2 | 1 |

Glossar

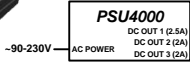


SR450/470 – WMS450 or WMS470 Stationary Receiver

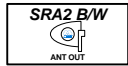


PS4000W – Power Splitter 1:4 (Distribute RF signal and DC Power)

- Splits 1 antenna to 4 receiver
- Antenna cascade(Link) output to send RF-Signal to next PS4000. Cascade max. 3 PS4000.
- If you need more than 12 channels use an ZAPD in front of the first PS4000.



PSU4000 – Power Supply Unit with 3x 12 volt outputs (2.5A and 2A)



SRA2 B/W – Active Directional Antenna (21.5 dB Gain)



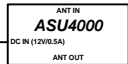
RA4000 B/W – Active Omni-directional Antenna (17 dB Gain)



CU400 – Charging Unit for WMS450/470 (2 transmitter / unit)

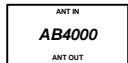


ZAPD-21 – Passive Combiner 2:1 and 1:2



ASU4000 – Antenna Supply Unit

- Supplies up to three active elements (RA4000BW, SRA2BW, AB4000)



AB4000 – Antenna Booster

- 3.5 dB – 17.5 dB amplifier

Cable

MKPS – 0.65m/2 feet RG58 antenna cable

MKA5 – 5m/16ft RG58 antenna cable

MKA20 – 20/66ft RG58 antenna cable

0110E01890 – Front mount cable

- Install ¼ wave antennas at the front of the rack

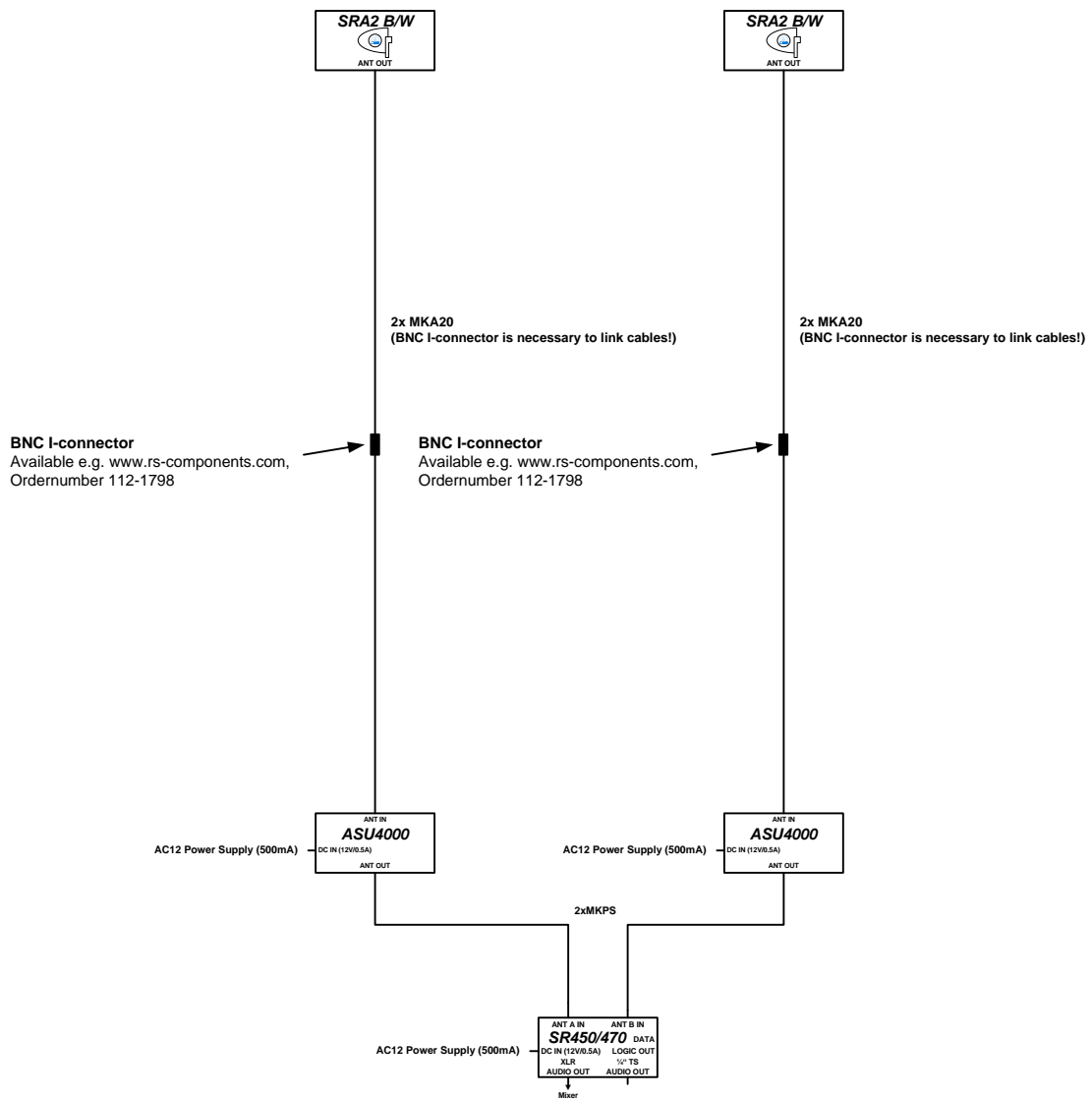


Front mount cable & ¼ wave antenna

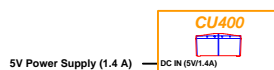


1 Channel WMS450/470 System

With directional antennas & 40m antenna cable (132 feet)



**2 HT450/470 or PT450/470 charging system
(optional)**



| | | | |
|----------|--|----------|------------|
| Date | 15.01.2012 | Revision | 1.0 |
| Designer | Wolfgang Fritz | Ref.No. | MCS0802001 |
| Project | 1 channel WMS450/470 system (SRA2 B/W – Antennas) | | |



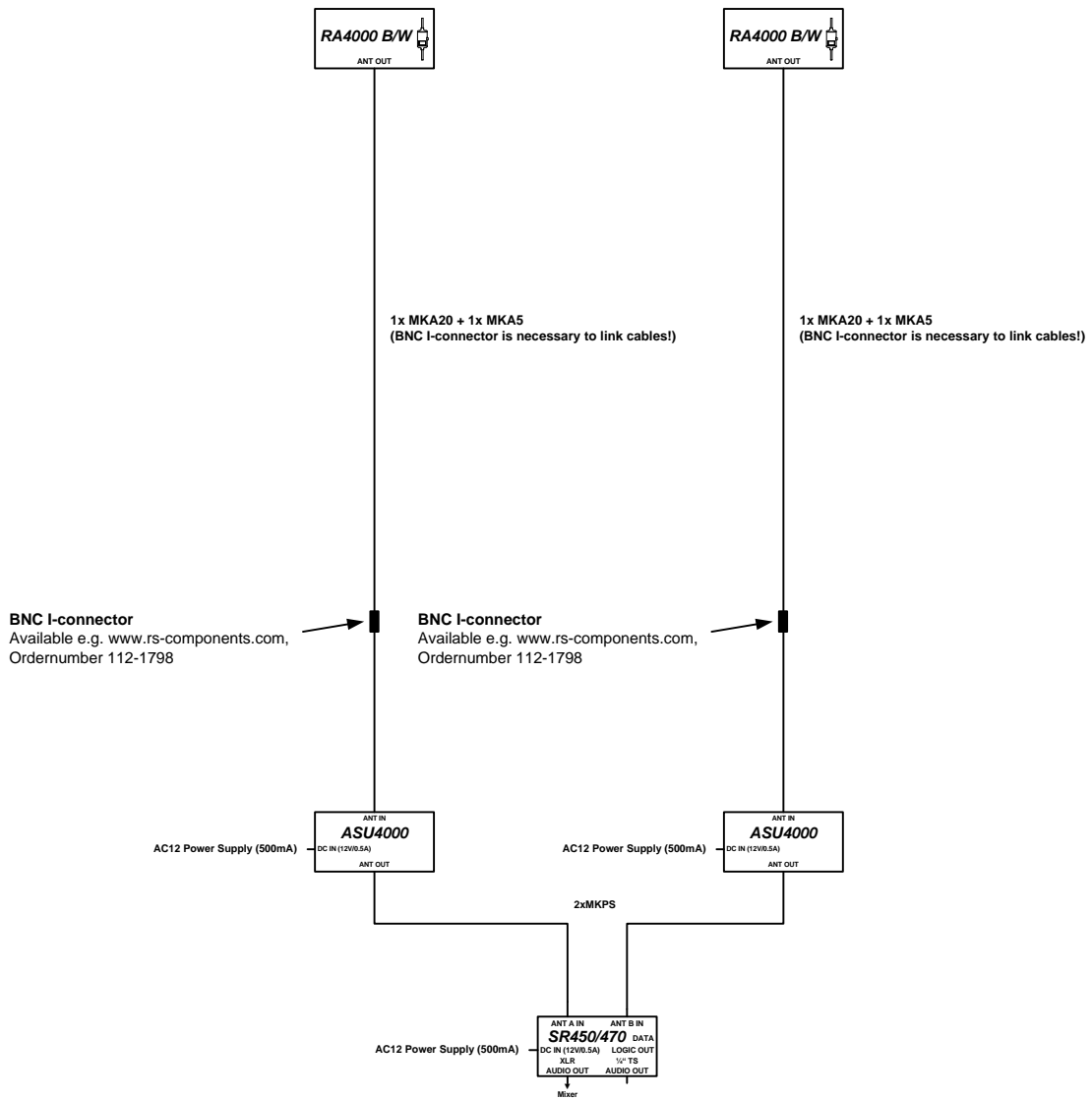
1 Channel WMS450/470 System with directional antennas, no PSU4000, no PS4000W

| units | description | comment |
|-------|---------------------|--|
| 1 | WMS450/470 Set | Half-rack receiver with AC-Adapter; hand transmitter with D5 or C5 capsule, or pocket transmitter with MKGL, or C544L or C555 L+ CK99 L, 2 UHF antennas; RMU 4000 rack mount kit, 1 AA size battery, 1 stand adapter |
| 2 | SRA 2 B/W | External directional active "paddle" antenna with amplifier (2 req.) |
| 2 | MK PS | Connecting cable for PS to SR 2.15ft (65cm) |
| 4 | MKA 20 | 66 ft. (20m) Cables for connecting ext. antennas to multi-couplers (2 req.) KOAX RG58 |
| 2 | ASU4000 (BNC) | Antenna Supply unit for long antenna cables (BNC connector) without AC-Adapter |
| 3 | AC12 500mA EU/US/UK | 12V AC-Adapter for 1 ASU4000, AB4000, HUB4000Q or SR4500. |
| 2 | BNC I-connector | EXTERNAL !! Not available at AKG - BNC I-Connector (you can buy it at www.rs-components.com , Ordernumber 112-1798) |

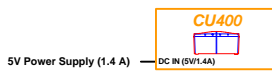
Optional Components

| units | description | comment |
|-------|-----------------|--|
| 1 | CU 400 EU/US/UK | Charging unit for WMS 400 transmitters, AC adapters included |

1 Channel WMS450/470 System with omni-directional antennas & 25m antenna cable (82 feet)



**2 HT450/470 or PT450/470 charging system
(optional)**



| | | | |
|----------|--|----------|------------|
| Date | 15.01.2012 | Revision | 1.0 |
| Designer | Wolfgang Fritz | Ref.No. | MCS0802001 |
| Project | 1 channel WMS450/470 system (RA4000 B/W – Antennas) | | |



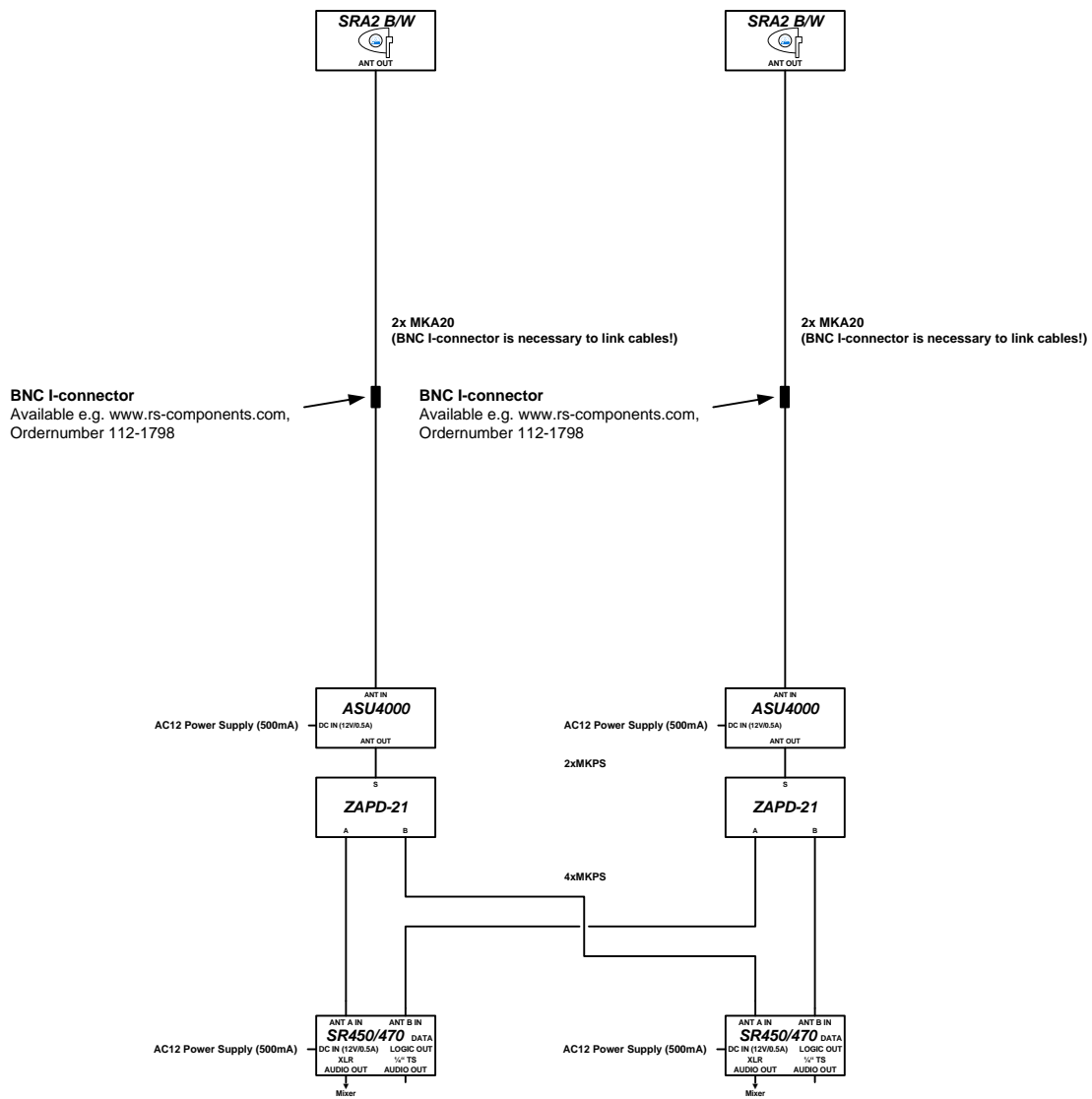
1 Channel WMS450/470 System with omni-directional antennas, no PSU4000, no PS4000W

| units | description | comment |
|-------|---------------------|--|
| 1 | WMS450/470 Set | Half-rack receiver with AC-Adapter; hand transmitter with D5 or C5 capsule, or pocket transmitter with MKGL, or C544L or C555 L+ CK99 L, 2 UHF antennas; RMU 4000 rack mount kit, 1 AA size battery, 1 stand adapter |
| 2 | RA4000 B/W | External omni-directional active dipoleantenna with amplifier (2 req.) |
| 2 | MK PS | Connecting cable for PS to SR 2.15ft (65cm) |
| 2 | MKA 20 | 66 ft. (20m) Cables for connecting ext. antennas to multi-couplers (2 req.) KOAX RG58 |
| 2 | MKA 5 | 16.5 ft. (5m) Cables for connecting ext. antennas to multi-couplers (2 req.) KOAX RG58 |
| 2 | ASU4000 (BNC) | Antenna Supply unit for long antenna cables (BNC connector) without AC-Adapter |
| 3 | AC12 500mA EU/US/UK | 12V AC-Adapter for 1 ASU4000, AB4000, HUB4000Q or SR4500. |
| 2 | BNC I-connector | EXTERNAL !! Not available at AKG - BNC I-Connector (you can buy it at www.rs-components.com , Ordernumber 112-1798) |

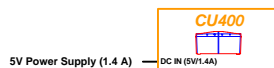
Optional Components

| units | description | comment |
|-------|-----------------|--|
| 1 | CU 400 EU/US/UK | Charging unit for WMS 400 transmitters, AC adapters included |

2 Channel WMS450/470 System With directional antennas & 40m antenna cable (132 feet)



**2 HT450/470 or PT450/470 charging system
(optional)**



| | | | |
|----------|--|----------|------------|
| Date | 15.01.2012 | Revision | 1.0 |
| Designer | Wolfgang Fritz | Ref.No. | MCS0802001 |
| Project | 2 channel WMS450/470 system (SRA2 B/W – Antennas, no PS4000, PSU4000) | | |

AKG
HARMAN

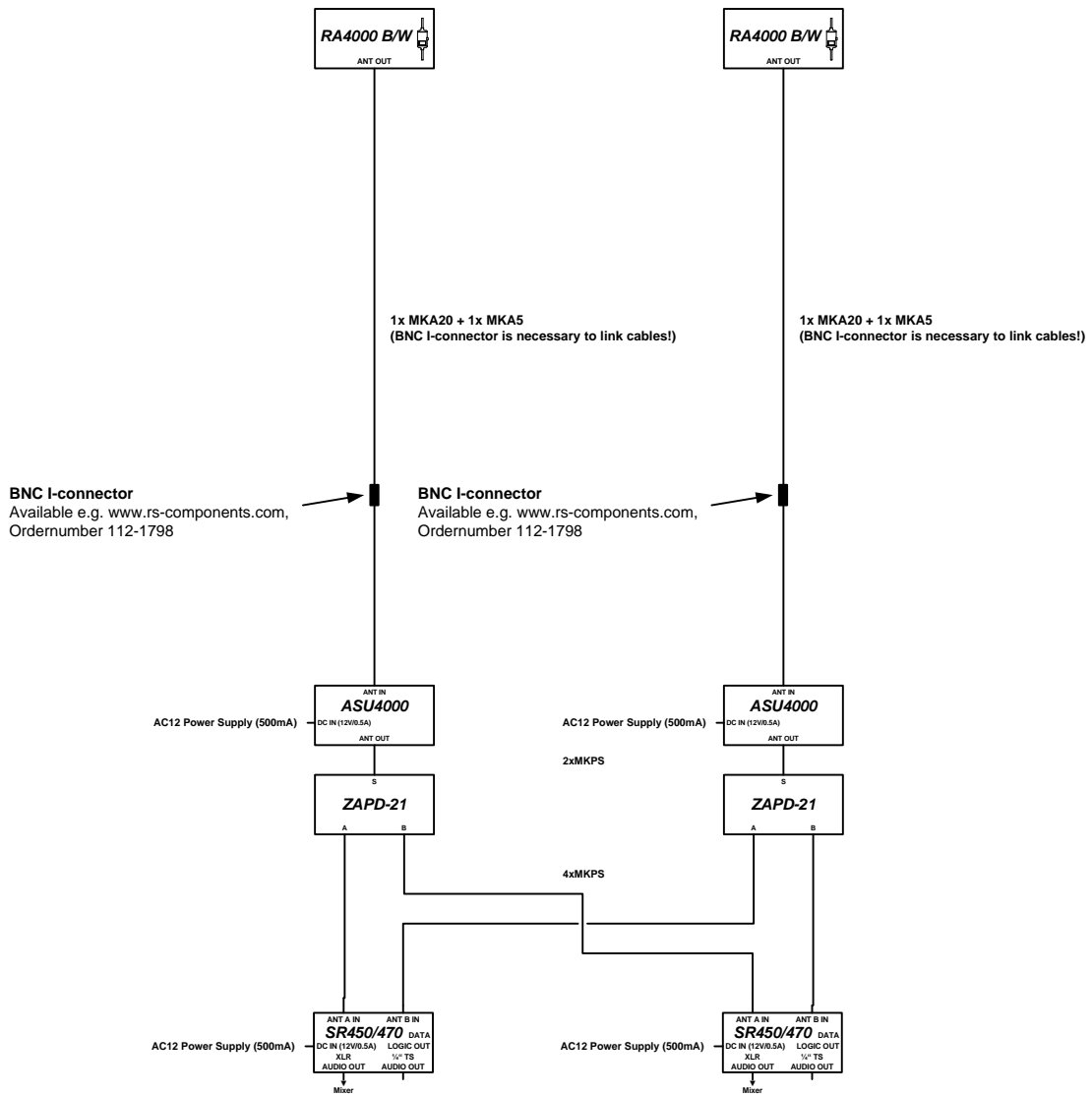
2 Channel WMS450/470 System with directional antennas, no PSU4000, no PS4000

| units | description | comment |
|-------|---------------------|--|
| 2 | WMS450/470 Set | Half-rack receiver with AC-Adapter; hand transmitter with D5 or C5 capsule, or pocket transmitter with MKGL, or C544L or C555 L+ CK99 L, 2 UHF antennas; RMU 4000 rack mount kit, 1 AA size battery, 1 stand adapter |
| 2 | SRA 2 B/W | External directional active "paddle" antenna with amplifier (2 req.) |
| 6 | MK PS | Connecting cable for PS to SR 2.15ft (65cm) |
| 4 | MKA 20 | 66 ft. (20m) Cables for connecting ext. antennas to multi-couplers (2 req.) KOAX RG58 |
| 2 | ASU4000 (BNC) | Antenna Supply unit for long antenna cables (BNC connector) without AC-Adapter |
| 4 | AC12 500mA EU/US/UK | 12V AC-Adapter for 1 ASU4000, AB4000, HUB4000Q or SR4500. |
| 2 | ZAPD21 | passive power combiner (2in 1out) or Splitter (1in 2out) |
| 2 | BNC I-connector | EXTERNAL !! Not available at AKG - BNC I-Connector (you can buy it at www.rs-components.com , Ordernumber 112-1798) |

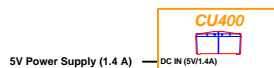
Optional Components

| units | description | comment |
|-------|-----------------|--|
| 1 | CU 400 EU/US/UK | Charging unit for WMS 400 transmitters, AC adapters included |

2 Channel WMS450/470 System with omni-directional antennas & 25m antenna cable (82 feet)



**2 HT450/470 or PT450/470 charging system
(optional)**



| | | | |
|----------|--|----------|------------|
| Date | 15.01.2012 | Revision | 1.0 |
| Designer | Wolfgang Fritz | Ref.No. | MCS0802001 |
| Project | 2 channel WMS450/470 system (RA4000 B/W – Antennas, no PS4000, PSU4000) | | |

AKG
by HARMAN

2 Channel WMS450/470 System with omni-directional antennas, no PSU4000, no PS4000

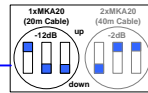
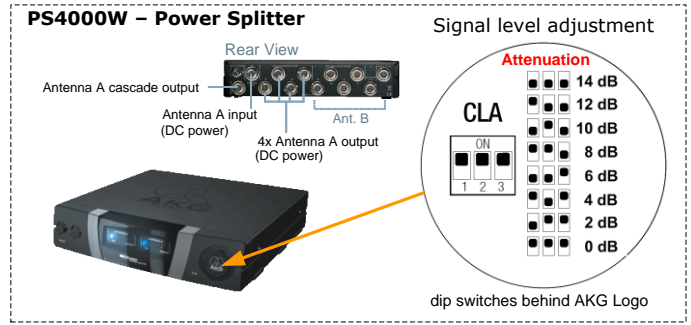
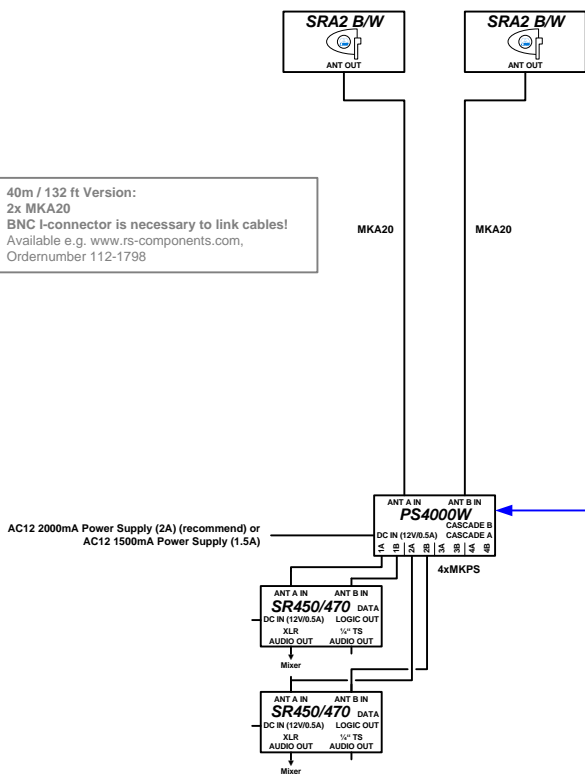
| units | description | comment |
|-------|---------------------|--|
| 2 | WMS450/470 Set | Half-rack receiver with AC-Adapter; hand transmitter with D5 or C5 capsule, or pocket transmitter with MKGL, or C544L or C555 L+ CK99 L, 2 UHF antennas; RMU 4000 rack mount kit, 1 AA size battery, 1 stand adapter |
| 2 | RA4000 B/W | External omni-directional active dipoleantenna with amplifier (2 req.) |
| 6 | MK PS | Connecting cable for PS to SR 2.15ft (65cm) |
| 2 | MKA 20 | 66 ft. (20m) Cables for connecting ext. antennas to multi-couplers (2 req.) KOAX RG58 |
| 2 | MKA 5 | 16.5 ft. (5m) Cables for connecting ext. antennas to multi-couplers (2 req.) KOAX RG58 |
| 2 | ASU4000 (BNC) | Antenna Supply unit for long antenna cables (BNC connector) without AC-Adapter |
| 4 | AC12 500mA EU/US/UK | 12V AC-Adapter for 1 ASU4000, AB4000, HUB4000Q or SR4500. |
| 2 | ZAPD21 | passive power combiner (2in 1out) or Splitter (1in 2out) |
| 2 | BNC I-connector | EXTERNAL !! Not available at AKG - BNC I-Connector (you can buy it at www.rs-components.com , Ordernumber 112-1798) |

Optional Components

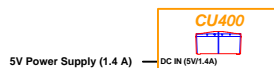
| units | description | comment |
|-------|-----------------|--|
| 1 | CU 400 EU/US/UK | Charging unit for WMS 400 transmitters, AC adapters included |

2 Channel WMS450/470 System with directional antennas & 20(40)m antenna cable (66 or 132 feet)

40m / 132 ft Version:
2x MKA20
BNC I-connector is necessary to link cables!
Available e.g. www.rs-components.com,
Ordernumber 112-1798



2 HT450/470 or PT450/470 charging system (optional)



| | | | |
|----------|---|----------|------------|
| Date | 15.01.2012 | Revision | 1.0 |
| Designer | Wolfgang Fritz | Ref.No. | MCS0802001 |
| Project | 2 channel WMS450/470 system (SRA2 B/W – Antennas, no PSU4000) | | |



2 Channel WMS450/470 System with directional antennas, no PSU4000

| units | description | comment |
|-------|----------------------|--|
| 2 | WMS450/470 Set | Half-rack receiver with AC-Adapter; hand transmitter with D5 or C5 capsule, or pocket transmitter with MKGL, or C544L or C555 L+ CK99 L, 2 UHF antennas; RMU 4000 rack mount kit, 1 AA size battery, 1 stand adapter |
| 1 | PS4000 W | Wide band antenna multi coupler (4+1 out) without AC-Adapter |
| 2 | SRA 2 B/W | External directional active "paddle" antenna with amplifier (2 req.) |
| 4 | MK PS | Connecting cable for PS to SR 2.15ft (65cm) |
| 2 | MKA 20 | 66 ft. (20m) Cables for connecting ext. antennas to multi-couplers (2 req.) KOAX RG58 |
| 1 | AC12 2000mA EU/US/UK | 12V AC-Adapter (EU-Version) power supply CU4000, PS4000 W (you can also use a PSU4000) |

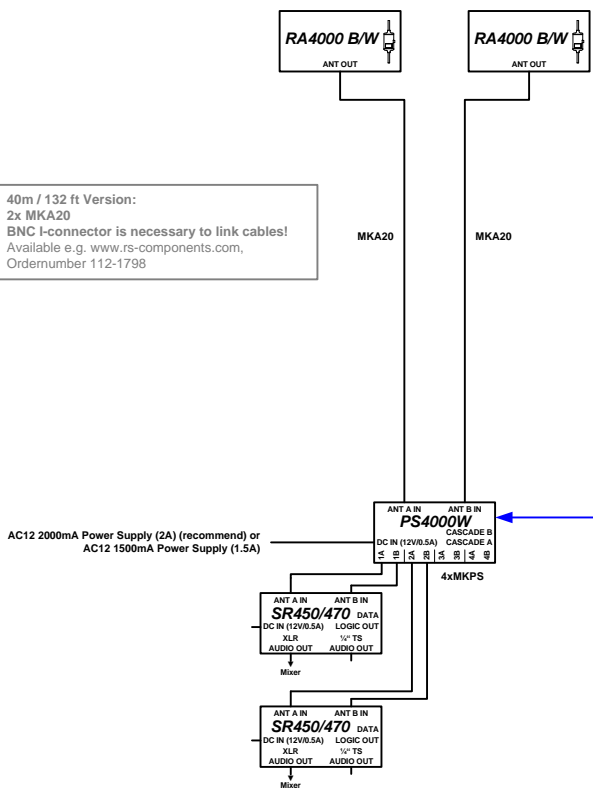
| Additional parts for 40m(132feet) Antenna Cable | | |
|---|-----------------|--|
| 2 | MKA 20 | 66 ft. (20m) Cables for connecting ext. antennas to multi-couplers (2 req.) KOAX RG58 |
| 2 | BNC I-connector | EXTERNAL !! Not available at AKG - BNC I-Connector (you can buy it at www.rs-components.com , Ordernumber 112-1798) |

Optional Components

| units | description | comment |
|-------|-----------------|--|
| 1 | CU 400 EU/US/UK | Charging unit for WMS 400 transmitters, AC adapters included |

2 Channel WMS450/470 System with omni-directional antennas & 20(40)m antenna cable (66 or 132 feet)

40m / 132 ft Version:
2x MKA20
BNC I-connector is necessary to link cables!
Available e.g. www.rs-components.com,
Ordernumber 112-1798



PS4000W – Power Splitter

Rear View

Antenna A cascade output Ant. B
Antenna A input (DC power) 4x Antenna A output (DC power)

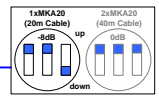
Signal level adjustment

Attenuation

| | | | | |
|---|---|---|---|-------|
| ● | ● | ● | ● | 14 dB |
| ● | ● | ● | | 12 dB |
| ● | ● | | | 10 dB |
| ● | | | | 8 dB |
| ● | | | | 6 dB |
| ● | | | | 4 dB |
| ● | | | | 2 dB |
| | | | | 0 dB |

CLA
ON
1 2 3

dip switches behind AKG Logo



2 HT450/470 or PT450/470 charging system (optional)



| | | | |
|----------|---|----------|------------|
| Date | 15.01.2012 | Revision | 1.0 |
| Designer | Wolfgang Fritz | Ref.No. | MCS0802001 |
| Project | 2 channel WMS450/470 system (RA4000 B/W – Antennas, no PSU4000) | | |



2 Channel WMS450/470 System with omni-directional antennas, no PSU4000

| units | description | comment |
|-------|----------------------|--|
| 2 | WMS450/470 Set | Half-rack receiver with AC-Adapter; hand transmitter with D5 or C5 capsule, or pocket transmitter with MKGL, or C544L or C555 L+ CK99 L, 2 UHF antennas; RMU 4000 rack mount kit, 1 AA size battery, 1 stand adapter |
| 1 | PS4000 W | Wide band antenna multi coupler (4+1 out) without AC-Adapter |
| 2 | RA4000 B/W | External omni-directional active dipoleantenna with amplifier (2 req.) |
| 4 | MK PS | Connecting cable for PS to SR 2.15ft (65cm) |
| 2 | MKA 20 | 66 ft. (20m) Cables for connecting ext. antennas to multi-couplers (2 req.) KOAX RG58 |
| 1 | AC12 2000mA EU/US/UK | 12V AC-Adapter (EU-Version) power supply CU4000, PS4000 W (you can also use a PSU4000) |

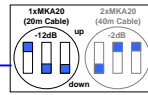
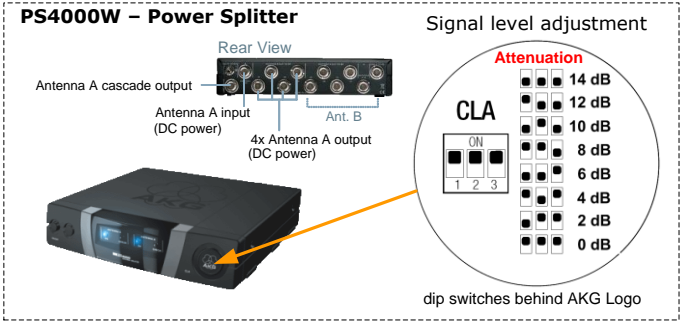
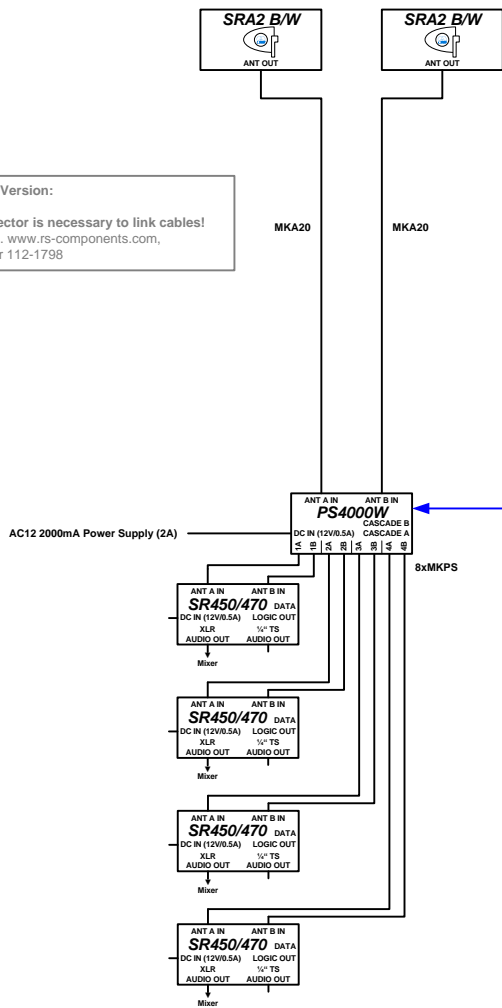
| Additional parts for 40m(132feet) Antenna Cable | | |
|---|-----------------|--|
| 2 | MKA 20 | 66 ft. (20m) Cables for connecting ext. antennas to multi-couplers (2 req.) KOAX RG58 |
| 2 | BNC I-connector | EXTERNAL !! Not available at AGK - BNC I-Connector (you can buy it at www.rs-components.com , Ordernumber 112-1798) |

Optional Components

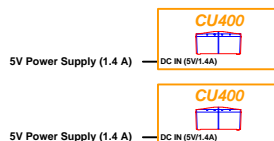
| units | description | comment |
|-------|-----------------|--|
| 1 | CU 400 EU/US/UK | Charging unit for WMS 400 transmitters, AC adapters included |

4 Channel WMS450/470 System with directional antennas & 20(40)m antenna cable (66 or 132 feet)

40m / 132 ft Version:
2x MKA20
BNC I-connector is necessary to link cables!
Available e.g. www.rs-components.com,
Ordernumber 112-1798



4 HT450/470 or PT450/470 charging system (optional)



| | | | |
|----------|--|----------|------------|
| Date | 15.01.2012 | Revision | 1.0 |
| Designer | Wolfgang Fritz | Ref.No. | MCS0802001 |
| Project | 4 channel WMS450/470 system (SRA2 B/W - Antennas, no PSU4000) | | |



4 Channel WMS450/470 System with directional antennas, no PSU4000

| units | description | comment |
|-------|----------------------|--|
| 4 | WMS450/470 Set | Half-rack receiver with AC-Adapter; hand transmitter with D5 or C5 capsule, or pocket transmitter with MKGL, or C544L or C555 L+ CK99 L, 2 UHF antennas; RMU 4000 rack mount kit, 1 AA size battery, 1 stand adapter |
| 1 | PS4000 W | Wide band antenna multi coupler (4+1 out) without AC-Adapter |
| 2 | SRA 2 B/W | External directional active "paddle" antenna with amplifier (2 req.) |
| 8 | MK PS | Connecting cable for PS to SR 2.15ft (65cm) |
| 2 | MKA 20 | 66 ft. (20m) Cables for connecting ext. antennas to multi-couplers (2 req.) KOAX RG58 |
| 1 | AC12 2000mA EU/US/UK | 12V AC-Adapter (EU-Version) power supply CU4000, PS4000 W (you can also use a PSU4000) |

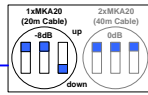
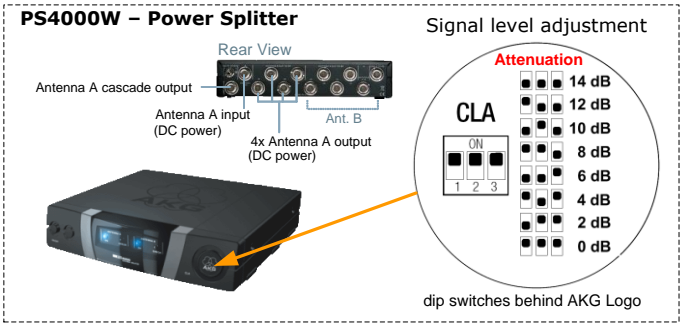
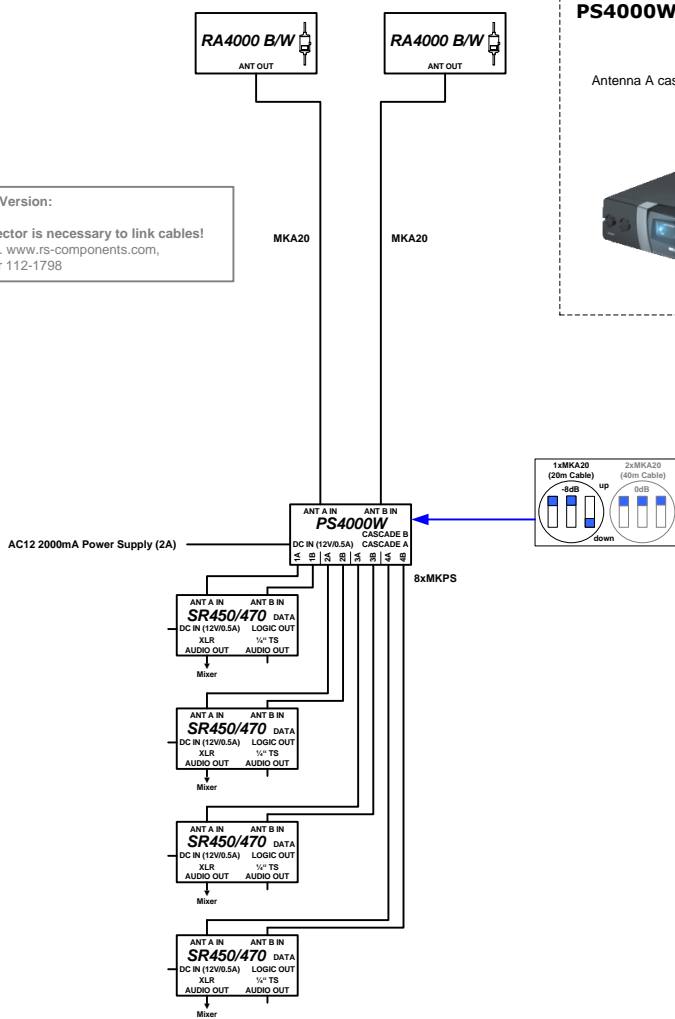
| Additional parts for 40m(132feet) Antenna Cable | | |
|---|-----------------|--|
| 2 | MKA 20 | 66 ft. (20m) Cables for connecting ext. antennas to multi-couplers (2 req.) KOAX RG58 |
| 2 | BNC I-connector | EXTERNAL !! Not available at AKG - BNC I-Connector (you can buy it at www.rs-components.com , Ordernumber 112-1798) |

Optional Components

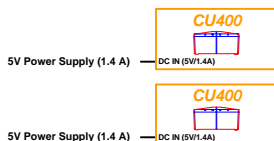
| units | description | comment |
|-------|-------------|---|
| 2 | CU 4000 | Twin charger + 2 BP 4000 for HT 4000 & PT 4000; with AC Adapter. Please specify one of the AC- CU4000 |

4 Channel WMS450/470 System with omni-directional antennas & 20(40)m antenna cable (66 or 132 feet)

40m / 132 ft Version:
2x MKA20
BNC I-connector is necessary to link cables!
Available e.g. www.rs-components.com,
Ordernumber 112-1798



4 HT450/470 or PT450/470 charging system (optional)



| | | | |
|----------|---|----------|------------|
| Date | 15.01.2012 | Revision | 1.0 |
| Designer | Wolfgang Fritz | Ref.No. | MCS0802001 |
| Project | 4 channel WMS450/470 system (RA4000 B/W – Antennas, no PSU4000) | | |



4 Channel WMS450/470 System with omni-directional antennas, no PSU4000

| units | description | comment |
|-------|----------------------|--|
| 4 | WMS450/470 Set | Half-rack receiver with AC-Adapter; hand transmitter with D5 or C5 capsule, or pocket transmitter with MKGL, or C544L or C555 L+ CK99 L, 2 UHF antennas; RMU 4000 rack mount kit, 1 AA size battery, 1 stand adapter |
| 1 | PS4000 W | Wide band antenna multi coupler (4+1 out) without AC-Adapter |
| 2 | RA4000 B/W | External omni-directional active dipoleantenna with amplifier (2 req.) |
| 8 | MK PS | Connecting cable for PS to SR 2.15ft (65cm) |
| 2 | MKA 20 | 66 ft. (20m) Cables for connecting ext. antennas to multi-couplers (2 req.) KOAX RG58 |
| 1 | AC12 2000mA EU/US/UK | 12V AC-Adapter (EU-Version) power supply CU4000, PS4000 W (you can also use a PSU4000) |

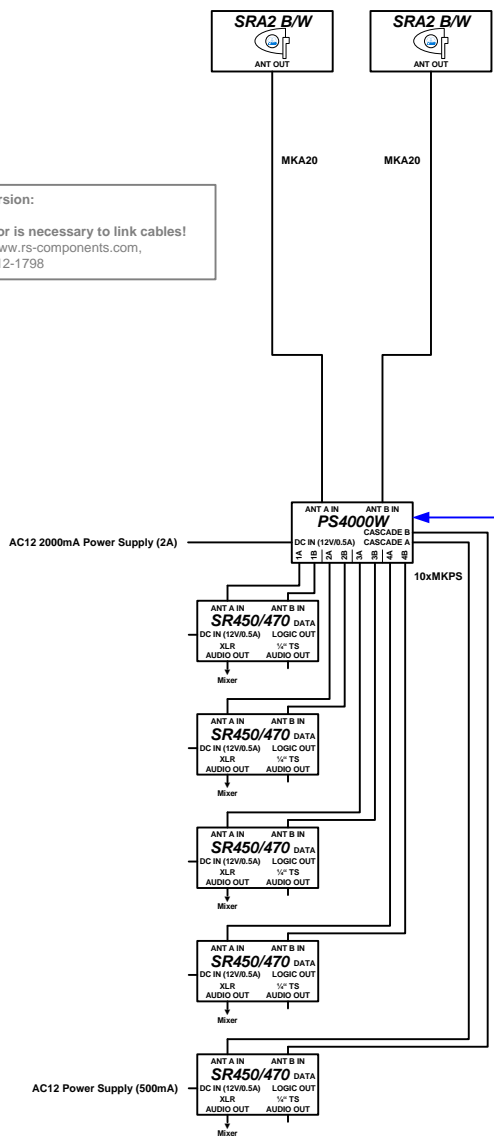
| Additional parts for 40m(132feet) Antenna Cable | | |
|---|-----------------|--|
| 2 | MKA 20 | 66 ft. (20m) Cables for connecting ext. antennas to multi-couplers (2 req.) KOAX RG58 |
| 2 | BNC I-connector | EXTERNAL !! Not available at AKG - BNC I-Connector (you can buy it at www.rs-components.com , Ordernumber 112-1798) |

Optional Components

| units | description | comment |
|-------|-----------------|--|
| 2 | CU 400 EU/US/UK | Charging unit for WMS 400 transmitters, AC adapters included |

5 Channel WMS450/470 System with directional antennas & 20(40)m antenna cable (66 or 132 feet)

40m / 132 ft Version:
2x MKA20
BNC I-connector is necessary to link cables!
Available e.g. www.rs-components.com,
Ordernumber 112-1798



PS4000W – Power Splitter

Rear View

Antenna A cascade output
Antenna A input (DC power)
4x Antenna A output (DC power)
Ant. B

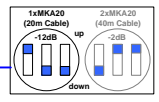
Signal level adjustment

Attenuation

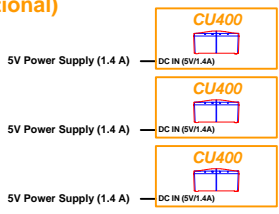
| |
|-------|
| 14 dB |
| 12 dB |
| 10 dB |
| 8 dB |
| 6 dB |
| 4 dB |
| 2 dB |
| 0 dB |

CLA
ON
1 2 3

dip switches behind AKG Logo



6 HT450/470 or PT450/470 charging system (optional)



| | | | |
|----------|---|----------|------------|
| Date | 15.01.2012 | Revision | 1.0 |
| Designer | Wolfgang Fritz | Ref.No. | MCS0802001 |
| Project | 5 channel WMS450/470 system (SRA2 B/W – Antennas) | | |



5 Channel WMS450/470 System with directional antennas

| units | description | comment |
|-------|----------------------|--|
| 5 | WMS450/470 Set | Half-rack receiver with AC-Adapter; hand transmitter with D5 or C5 capsule, or pocket transmitter with MKGL, or C544L or C555 L+ CK99 L, 2 UHF antennas; RMU 4000 rack mount kit, 1 AA size battery, 1 stand adapter |
| 1 | PS4000 W | Wide band antenna multi coupler (4+1 out) without AC-Adapter |
| 2 | SRA 2 B/W | External directional active "paddle" antenna with amplifier (2 req.) |
| 10 | MK PS | Connecting cable for PS to SR 2.15ft (65cm) |
| 2 | MKA 20 | 66 ft. (20m) Cables for connecting ext. antennas to multi-couplers (2 req.) KOAX RG58 |
| 1 | AC12 2000mA EU/US/UK | 12V AC-Adapter (EU-Version) power supply CU4000, PS4000 W (you can also use a PSU4000 output) |
| 1 | AC12 500mA EU/US/UK | 12V AC-Adapter for 1 ASU4000, AB4000, HUB4000Q or SR4500. |

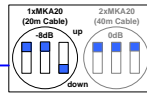
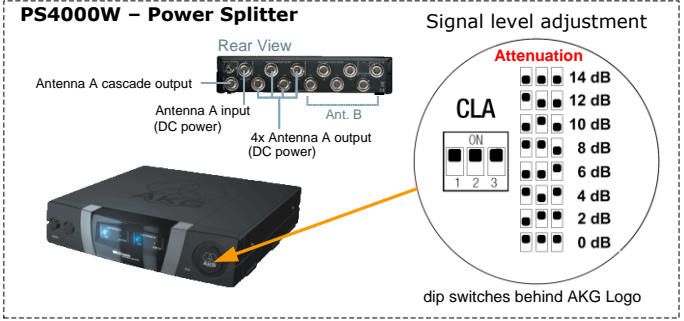
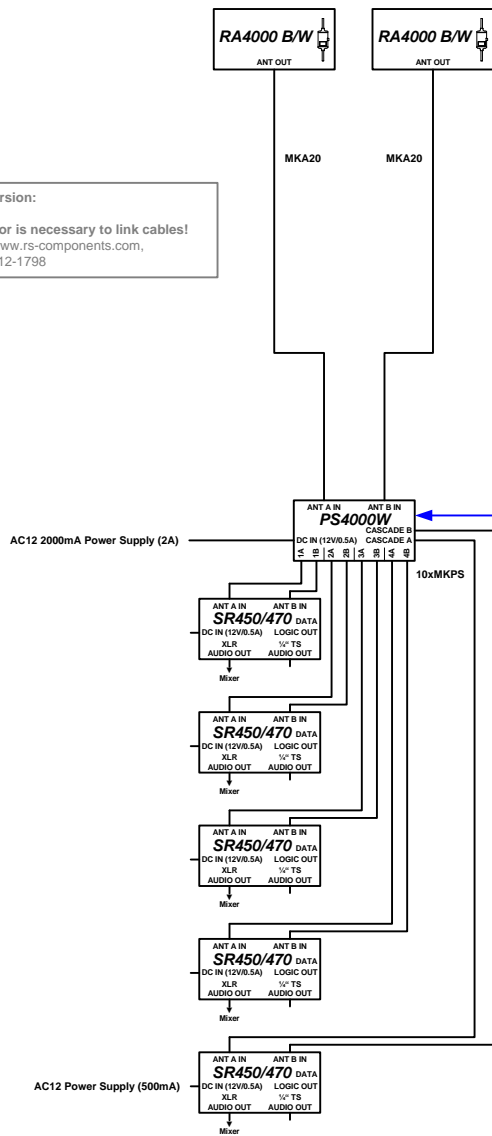
| Additional parts for 40m(132feet) Antenna Cable | | |
|---|-----------------|---|
| 2 | MKA 20 | 66 ft. (20m) Cables for connecting ext. antennas to multi-couplers (2 req.) KOAX RG58 |
| 2 | BNC I-connector | EXTERNAL !! Not available at AKG - BNC I-Connector (you can buy it at www.rs-components.com , Ordernumber 112-1798) |

Optional Components

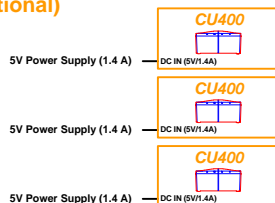
| units | description | comment |
|-------|-----------------|--|
| 3 | CU 400 EU/US/UK | Charging unit for WMS 400 transmitters, AC adapters included |

5 Channel WMS450/470 System with omni-directional antennas & 20(40)m antenna cable (66 or 132 feet)

40m / 132 ft Version:
2x MKA20
BNC I-connector is necessary to link cables!
Available e.g. www.rs-components.com,
Ordernumber 112-1798



6 HT450/470 or PT450/470 charging system (optional)



| | | | |
|----------|---|----------|------------|
| Date | 15.01.2012 | Revision | 1.0 |
| Designer | Wolfgang Fritz | Ref.No. | MCS0802001 |
| Project | 5 channel WMS450/470 system (RA4000 B/W – Antennas) | | |



5 Channel WMS450/470 System with omni-directional antennas

| units | description | comment |
|-------|----------------------|--|
| 5 | WMS450/470 Set | Half-rack receiver with AC-Adapter; hand transmitter with D5 or C5 capsule, or pocket transmitter with MKGL, or C544L or C555 L+ CK99 L, 2 UHF antennas; RMU 4000 rack mount kit, 1 AA size battery, 1 stand adapter |
| 1 | PS4000 W | Wide band antenna multi coupler (4+1 out) without AC-Adapter |
| 2 | RA4000 B/W | External omni-directional active dipoleantenna with amplifier (2 req.) |
| 10 | MK PS | Connecting cable for PS to SR 2.15ft (65cm) |
| 2 | MKA 20 | 66 ft. (20m) Cables for connecting ext. antennas to multi-couplers (2 req.) KOAX RG58 |
| 1 | AC12 2000mA EU/US/UK | 12V AC-Adapter (EU-Version) power supply CU4000, PS4000 W (you can also use a PSU4000 output) |
| 1 | AC12 500mA EU/US/UK | 12V AC-Adapter for 1 ASU4000, AB4000, HUB4000Q or SR4500. |

| Additional parts for 40m(132feet) Antenna Cable | | |
|---|-----------------|---|
| 2 | MKA 20 | 66 ft. (20m) Cables for connecting ext. antennas to multi-couplers (2 req.) KOAX RG58 |
| 2 | BNC I-connector | EXTERNAL !! Not available at AKG - BNC I-Connector (you can buy it at www.rs-components.com , Ordernumber 112-1798) |

Optional Components

| units | description | comment |
|-------|-----------------|--|
| 3 | CU 400 EU/US/UK | Charging unit for WMS 400 transmitters, AC adapters included |

6 Channel WMS450/470 System with directional antennas & 20(40)m antenna cable (66 or 132 feet)

40m / 132 ft Version:
2x MKA20
BNC I-connector is necessary to link cables!
Available e.g. www.rs-components.com,
Ordernumber 112-1798

PS4000W – Power Splitter

Rear View

Antenna A cascade output

Antenna A input (DC power)

Ant. B

4x Antenna A output (DC power)

Signal level adjustment

Attenuation

CLA

ON

1 2 3

14 dB

12 dB

10 dB

8 dB

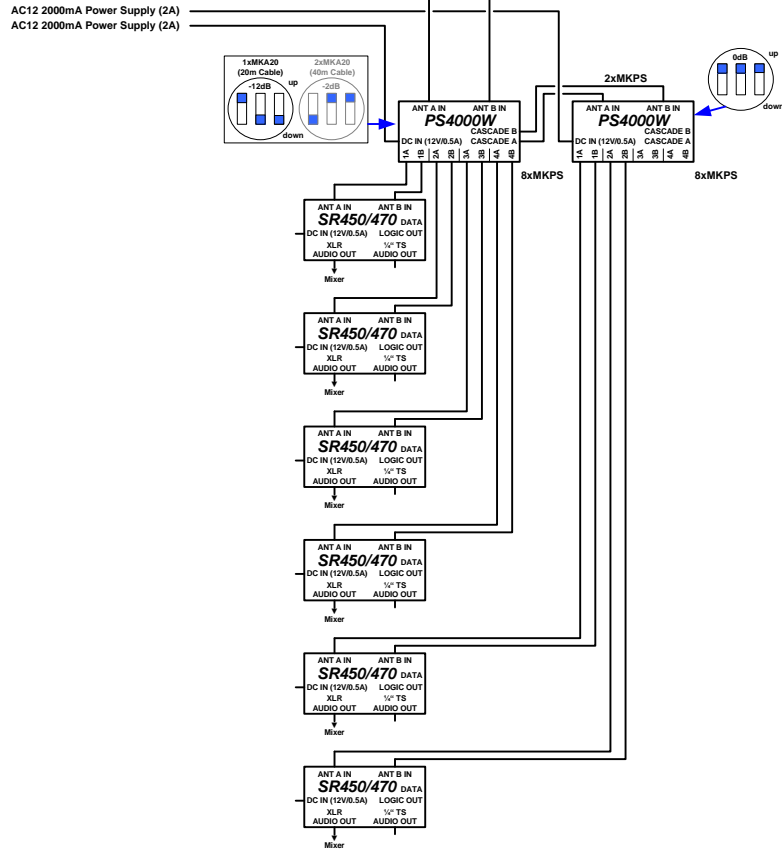
6 dB

4 dB

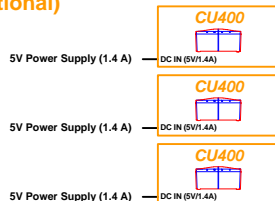
2 dB

0 dB

dip switches behind AKG Logo



6 HT450/470 or PT450/470 charging system (optional)



| | | | |
|----------|---|----------|------------|
| Date | 15.01.2012 | Revision | 1.0 |
| Designer | Wolfgang Fritz | Ref.No. | MCS0802001 |
| Project | 6 channel WMS450/470 system (SRA2 B/W – Antennas) | | |



6 Channel WMS450/470 System with directional antennas

| units | description | comment |
|-------|----------------------|--|
| 6 | WMS450/470 Set | Half-rack receiver with AC-Adapter; hand transmitter with D5 or C5 capsule, or pocket transmitter with MKGL, or C544L or C555 L+ CK99 L, 2 UHF antennas; RMU 4000 rack mount kit, 1 AA size battery, 1 stand adapter |
| 2 | PS4000 W | Wide band antenna multi coupler (4+1 out) without AC-Adapter |
| 2 | SRA 2 B/W | External directional active "paddle" antenna with amplifier (2 req.) |
| 14 | MK PS | Connecting cable for PS to SR 2.15ft (65cm) |
| 2 | MKA 20 | 66 ft. (20m) Cables for connecting ext. antennas to multi-couplers (2 req.) KOAX RG58 |
| 2 | AC12 2000mA EU/US/UK | 12V AC-Adapter (EU-Version) power supply CU4000, PS4000 W (you can also use a PSU4000 output) |

| Additional parts for 40m(132feet) Antenna Cable | | |
|---|-----------------|--|
| 2 | MKA 20 | 66 ft. (20m) Cables for connecting ext. antennas to multi-couplers (2 req.) KOAX RG58 |
| 2 | BNC I-connector | EXTERNAL !! Not available at AKG - BNC I-Connector (you can buy it at www.rs-components.com , Ordernumber 112-1798) |

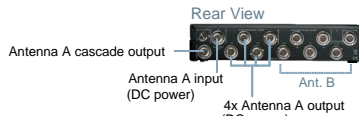
Optional Components

| units | description | comment |
|-------|-----------------|--|
| 3 | CU 400 EU/US/UK | Charging unit for WMS 400 transmitters, AC adapters included |

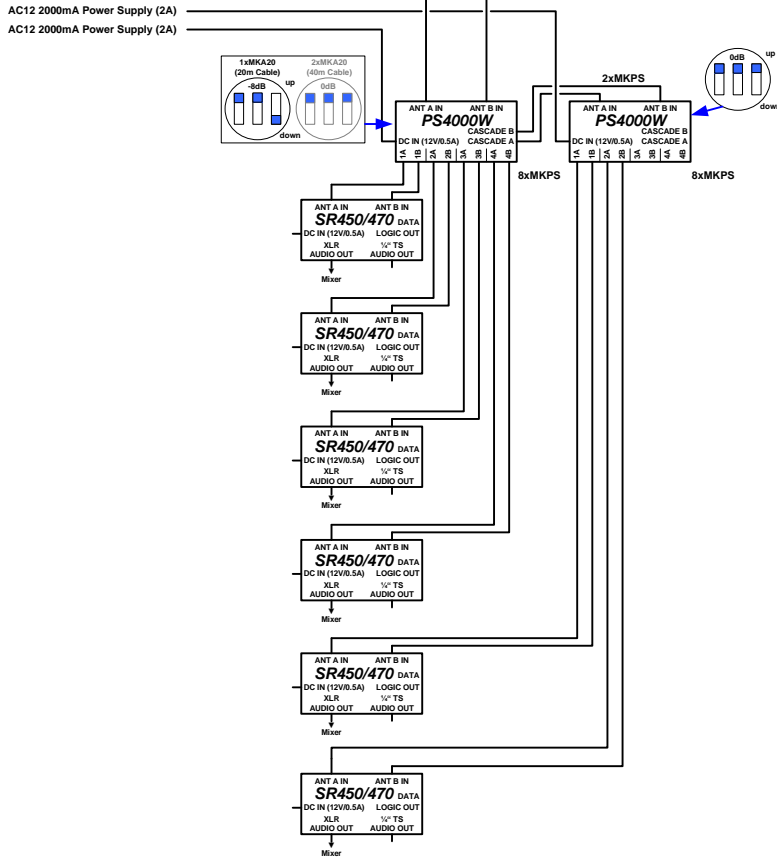
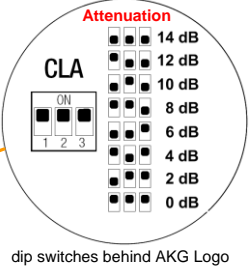
6 Channel WMS450/470 System with omni-directional antennas & 20(40)m antenna cable (66 or 132 feet)

40m / 132 ft Version:
2x MKA20
BNC I-connector is necessary to link cables!
Available e.g. www.rs-components.com,
Ordernumber 112-1798

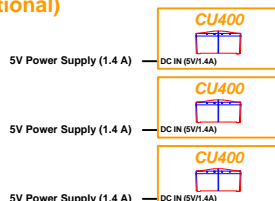
PS4000W – Power Splitter



Signal level adjustment



6 HT450/470 or PT450/470 charging system (optional)



| | | | |
|----------|---|----------|------------|
| Date | 15.01.2012 | Revision | 1.0 |
| Designer | Wolfgang Fritz | Ref.No. | MCS0802001 |
| Project | 6 channel WMS450/470 system (RA4000 B/W – Antennas) | | |



6 Channel WMS450/470 System with omni-directional antennas

| units | description | comment |
|-------|----------------------|--|
| 6 | WMS450/470 Set | Half-rack receiver with AC-Adapter; hand transmitter with D5 or C5 capsule, or pocket transmitter with MKGL, or C544L or C555 L+ CK99 L, 2 UHF antennas; RMU 4000 rack mount kit, 1 AA size battery, 1 stand adapter |
| 2 | PS4000 W | Wide band antenna multi coupler (4+1 out) without AC-Adapter |
| 2 | RA4000 B/W | External omni-directional active dipoleantenna with amplifier (2 req.) |
| 14 | MK PS | Connecting cable for PS to SR 2.15ft (65cm) |
| 2 | MKA 20 | 66 ft. (20m) Cables for connecting ext. antennas to multi-couplers (2 req.) KOAX RG58 |
| 2 | AC12 2000mA EU/US/UK | 12V AC-Adapter (EU-Version) power supply CU4000, PS4000 W (you can also use a PSU4000 output) |

| Additional parts for 40m(132feet) Antenna Cable | | |
|---|-----------------|--|
| 2 | MKA 20 | 66 ft. (20m) Cables for connecting ext. antennas to multi-couplers (2 req.) KOAX RG58 |
| 2 | BNC I-connector | EXTERNAL !! Not available at AKG - BNC I-Connector (you can buy it at www.rs-components.com , Ordernumber 112-1798) |

Optional Components

| units | description | comment |
|-------|-----------------|--|
| 3 | CU 400 EU/US/UK | Charging unit for WMS 400 transmitters, AC adapters included |

8 Channel WMS450/470 System with directional antennas & 20(40)m antenna cable (66 or 132 feet)

40m / 132 ft Version:
2x MKA20
BNC I-connector is necessary to link cables!
Available e.g. www.rs-components.com,
Ordernumber 112-1798

PS4000W – Power Splitter

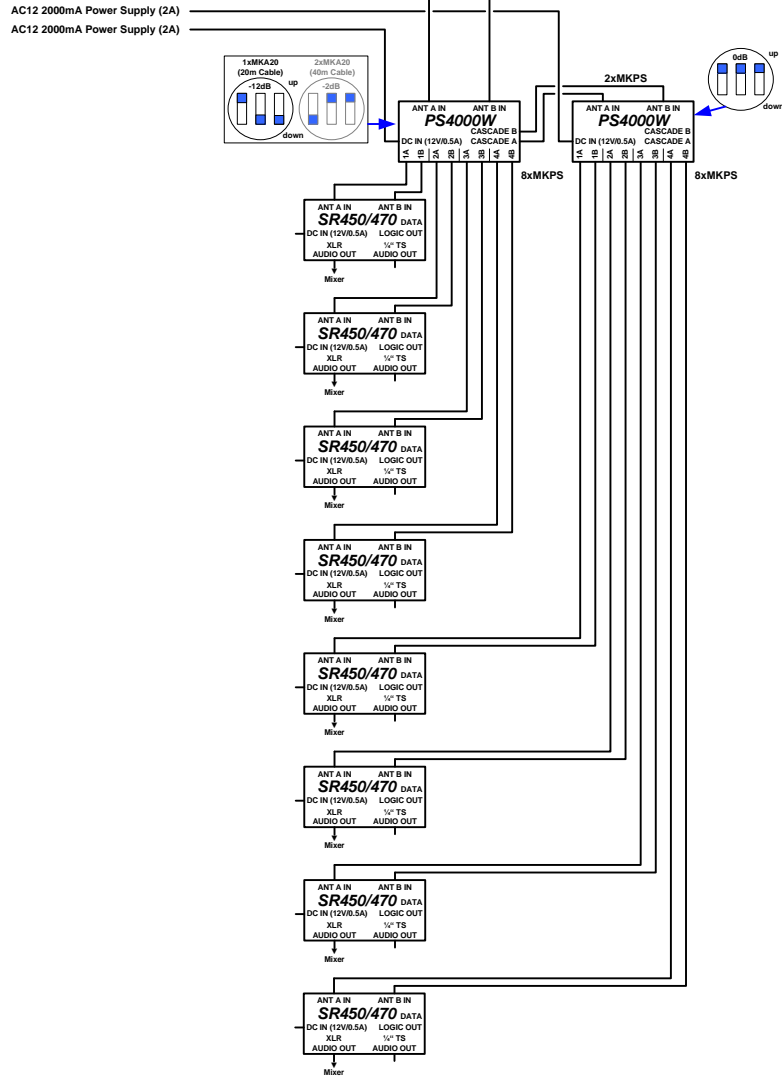
Signal level adjustment

Attenuation

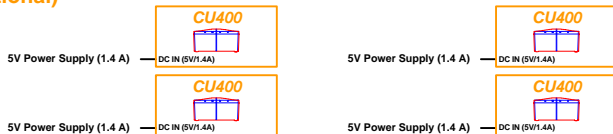
| |
|-------|
| 14 dB |
| 12 dB |
| 10 dB |
| 8 dB |
| 6 dB |
| 4 dB |
| 2 dB |
| 0 dB |

CLA
ON
1 2 3

dip switches behind AKG Logo



8 HT450/470 or PT450/470 charging system (optional)



| | | | |
|----------|---|----------|------------|
| Date | 15.01.2012 | Revision | 1.0 |
| Designer | Wolfgang Fritz | Ref.No. | MCS0802001 |
| Project | 8 channel WMS450/470 system (SRA2 B/W – Antennas) | | |



8 Channel WMS450/470 System with directional antennas

| units | description | comment |
|-------|----------------------|--|
| 8 | WMS450/470 Set | Half-rack receiver with AC-Adapter; hand transmitter with D5 or C5 capsule, or pocket transmitter with MKGL, or C544L or C555 L+ CK99 L, 2 UHF antennas; RMU 4000 rack mount kit, 1 AA size battery, 1 stand adapter |
| 2 | PS4000 W | Wide band antenna multi coupler (4+1 out) without AC-Adapter |
| 2 | SRA 2 B/W | External directional active "paddle" antenna with amplifier (2 req.) |
| 18 | MK PS | Connecting cable for PS to SR 2.15ft (65cm) |
| 2 | MKA 20 | 66 ft. (20m) Cables for connecting ext. antennas to multi-couplers (2 req.) KOAX RG58 |
| 2 | AC12 2000mA EU/US/UK | 12V AC-Adapter (EU-Version) power supply CU4000, PS4000 W (you can also use a PSU4000 output) |

| Additional parts for 40m(132feet) Antenna Cable | | |
|---|-----------------|--|
| 2 | MKA 20 | 66 ft. (20m) Cables for connecting ext. antennas to multi-couplers (2 req.) KOAX RG58 |
| 2 | BNC I-connector | EXTERNAL !! Not available at AKG - BNC I-Connector (you can buy it at www.rs-components.com , Ordernumber 112-1798) |

Optional Components

| units | description | comment |
|-------|-----------------|--|
| 4 | CU 400 EU/US/UK | Charging unit for WMS 400 transmitters, AC adapters included |

8 Channel WMS450/470 System with omni-directional antennas & 20(40)m antenna cable (66 or 132 feet)

40m / 132 ft Version:
2x MKA20
BNC I-connector is necessary to link cables!
Available e.g. www.rs-components.com,
Ordernumber 112-1798

PS4000W – Power Splitter

Signal level adjustment

CLA

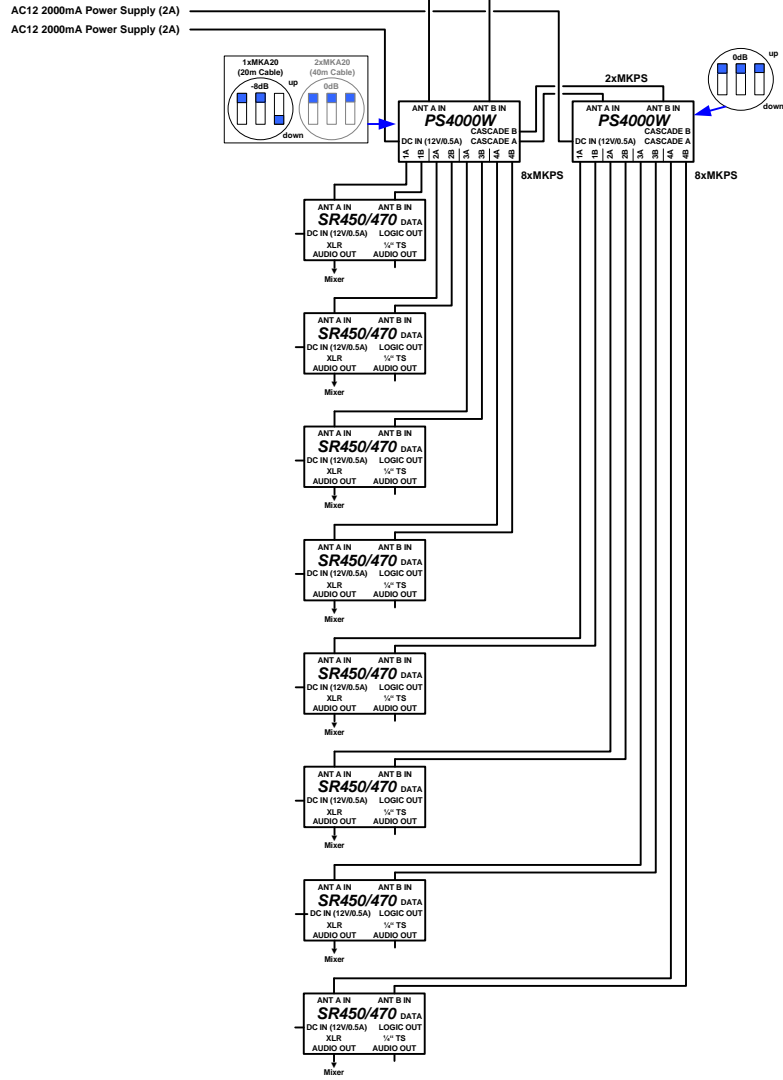
ON

1 2 3

Attenuation

- 14 dB
- 12 dB
- 10 dB
- 8 dB
- 6 dB
- 4 dB
- 2 dB
- 0 dB

dip switches behind AKG Logo



8 HT450/470 or PT450/470 charging system (optional)



| | | | |
|----------|---|----------|------------|
| Date | 15.01.2012 | Revision | 1.0 |
| Designer | Wolfgang Fritz | Ref.No. | MCS0802001 |
| Project | 8 channel WMS450/470 system (RA4000 B/W – Antennas) | | |



8 Channel WMS450/470 System with omni-directional antennas

| units | description | comment | code |
|-------|----------------------|--|-------------|
| 8 | WMS450/470 Set | Half-rack receiver with AC-Adapter; hand transmitter with D5 or C5 capsule, or pocket transmitter with MKGL, or C544L or C555 L+ CK99 L, 2 UHF antennas; RMU 4000 rack mount kit, 1 AA size battery, 1 stand adapter | 0 |
| 2 | PS4000 W | Wide band antenna multi coupler (4+1 out) without AC-Adapter | 2996Z0008 |
| 2 | RA4000 B/W | External omni-directional active dipoleantenna with amplifier (2 req.) | 2632Z0030 |
| 18 | MK PS | Connecting cable for PS to SR 2.15ft (65cm) | 6000H0206 |
| 2 | MKA 20 | 66 ft. (20m) Cables for connecting ext. antennas to multi-couplers (2 req.) KOAX RG58 | 6000H0205 |
| 2 | AC12 2000mA EU/US/UK | 12V AC-Adapter (EU-Version) power supply CU4000, PS4000 W (you can also use a PSU4000 output) | 7801H000... |

| Additional parts for 40m(132feet) Antenna Cable | | | |
|---|-----------------|--|-----------|
| 2 | MKA 20 | 66 ft. (20m) Cables for connecting ext. antennas to multi-couplers (2 req.) KOAX RG58 | 6000H0205 |
| 2 | BNC I-connector | EXTERNAL !! Not available at AKG - BNC I-Connector (you can buy it at www.rs-components.com , Ordernumber 112-1798) | |

Optional Components

| units | description | comment | code |
|-------|-----------------|--|-------------|
| 4 | CU 400 EU/US/UK | Charging unit for WMS 400 transmitters, AC adapters included | 2934Z000... |

9 Channel WMS450/470 System with directional antennas & 20(40)m antenna cable (66 or 132 feet)

40m / 132 ft Version:
2x MKA20
BNC I-connector is necessary to link cables!
Available e.g. www.rs-components.com,
Ordernumber 112-1798

PS4000W – Power Splitter

Signal level adjustment

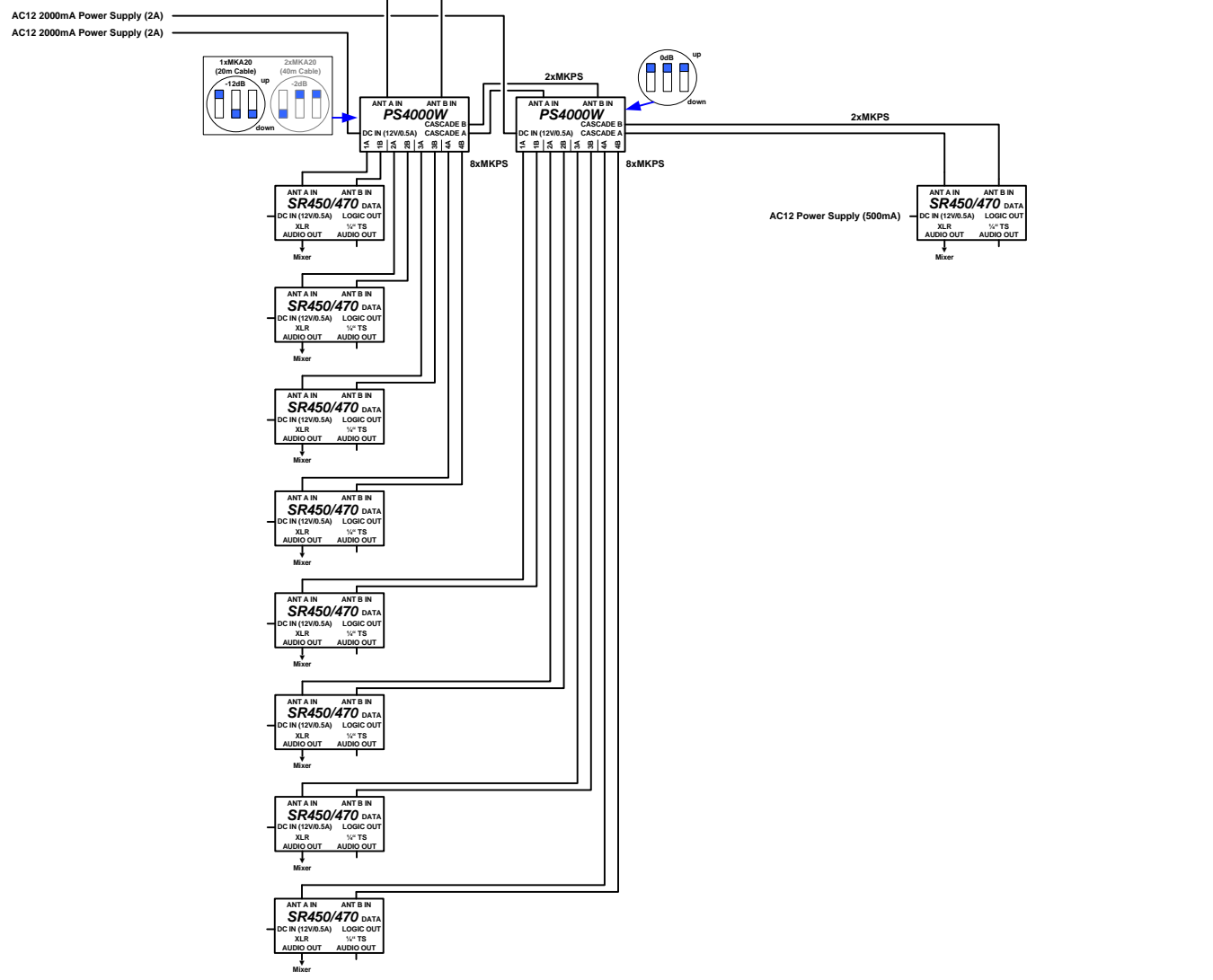
Attenuation

CLA

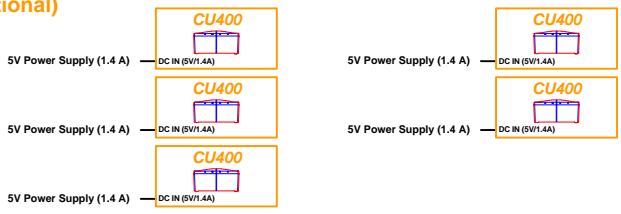
ON

| | |
|-------|--------------------------|
| 14 dB | <input type="checkbox"/> |
| 12 dB | <input type="checkbox"/> |
| 10 dB | <input type="checkbox"/> |
| 8 dB | <input type="checkbox"/> |
| 6 dB | <input type="checkbox"/> |
| 4 dB | <input type="checkbox"/> |
| 2 dB | <input type="checkbox"/> |
| 0 dB | <input type="checkbox"/> |

dip switches behind AKG Logo



10 HT450/470 or PT450/470 charging system (optional)



| | | | |
|----------|---|----------|------------|
| Date | 15.01.2012 | Revision | 1.0 |
| Designer | Wolfgang Fritz | Ref.No. | MCS0802001 |
| Project | 9 channel WMS450/470 system (SRA2 B/W – Antennas) | | |



9 Channel WMS450/470 System with directional antennas

| units | description | comment |
|-------|----------------------|--|
| 9 | WMS450/470 Set | Half-rack receiver with AC-Adapter; hand transmitter with D5 or C5 capsule, or pocket transmitter with MKGL, or C544L or C555 L+ CK99 L, 2 UHF antennas; RMU 4000 rack mount kit, 1 AA size battery, 1 stand adapter |
| 2 | PS4000 W | Wide band antenna multi coupler (4+1 out) without AC-Adapter |
| 2 | SRA 2 B/W | External directional active "paddle" antenna with amplifier (2 req.) |
| 20 | MK PS | Connecting cable for PS to SR 2.15ft (65cm) |
| 2 | MKA 20 | 66 ft. (20m) Cables for connecting ext. antennas to multi-couplers (2 req.) KOAX RG58 |
| 2 | AC12 2000mA EU/US/UK | 12V AC-Adapter (EU-Version) power supply CU4000, PS4000 W (you can also use a PSU4000 output) |
| 1 | AC12 500mA EU/US/UK | 12V AC-Adapter for 1 ASU4000, AB4000, HUB4000Q or SR4500. |

| Additional parts for 40m(132feet) Antenna Cable | | |
|---|-----------------|---|
| 2 | MKA 20 | 66 ft. (20m) Cables for connecting ext. antennas to multi-couplers (2 req.) KOAX RG58 |
| 2 | BNC I-connector | EXTERNAL !! Not available at AKG - BNC I-Connector (you can buy it at www.rs-components.com , Ordernumber 112-1798) |

Optional Components

| units | description | comment |
|-------|-----------------|--|
| 5 | CU 400 EU/US/UK | Charging unit for WMS 400 transmitters, AC adapters included |

9 Channel WMS450/470 System with omni-directional antennas & 20(40)m antenna cable (66 or 132 feet)

40m / 132 ft Version:
2x MKA20
BNC I-connector is necessary to link cables!
Available e.g. www.rs-components.com,
Ordernumber 112-1798

PS4000W – Power Splitter

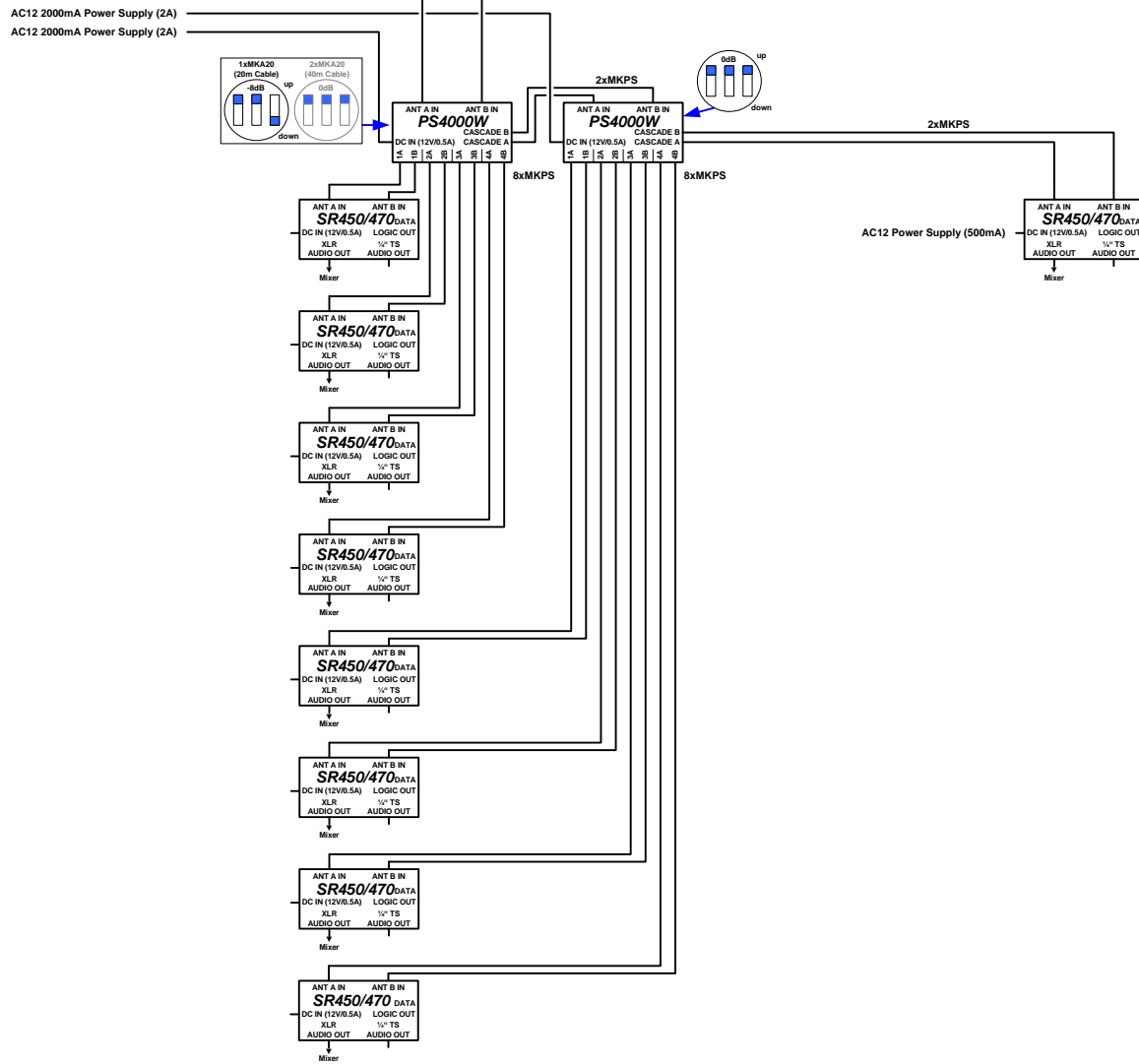
Signal level adjustment

Attenuation

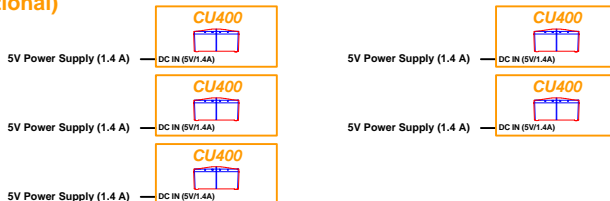
| |
|-------|
| 14 dB |
| 12 dB |
| 10 dB |
| 8 dB |
| 6 dB |
| 4 dB |
| 2 dB |
| 0 dB |

CLA
ON
1 2 3

dip switches behind AKG Logo



10 HT450/470 or PT450/470 charging system (optional)



| | | | |
|----------|--|----------|------------|
| Date | 15.01.2012 | Revision | 1.0 |
| Designer | Wolfgang Fritz | Ref.No. | MCS0802001 |
| Project | 9 channel WMS450/470 system (RA4000 B/W – Antennas) | | |



9 Channel WMS450/470 System with omni-directional antennas

| units | description | comment |
|-------|----------------------|--|
| 9 | WMS450/470 Set | Half-rack receiver with AC-Adapter; hand transmitter with D5 or C5 capsule, or pocket transmitter with MKGL, or C544L or C555 L+ CK99 L, 2 UHF antennas; RMU 4000 rack mount kit, 1 AA size battery, 1 stand adapter |
| 2 | PS4000 W | Wide band antenna multi coupler (4+1 out) without AC-Adapter |
| 2 | RA4000 B/W | External omni-directional active dipoleantenna with amplifier (2 req.) |
| 20 | MK PS | Connecting cable for PS to SR 2.15ft (65cm) |
| 2 | MKA 20 | 66 ft. (20m) Cables for connecting ext. antennas to multi-couplers (2 req.) KOAX RG58 |
| 2 | AC12 2000mA EU/US/UK | 12V AC-Adapter (EU-Version) power supply CU4000, PS4000 W (you can also use a PSU4000 output) |
| 1 | AC12 500mA EU/US/UK | 12V AC-Adapter for 1 ASU4000, AB4000, HUB4000Q or SR4500. |

| Additional parts for 40m(132feet) Antenna Cable | | |
|---|-----------------|---|
| 2 | MKA 20 | 66 ft. (20m) Cables for connecting ext. antennas to multi-couplers (2 req.) KOAX RG58 |
| 2 | BNC I-connector | EXTERNAL !! Not available at AKG - BNC I-Connector (you can buy it at www.rs-components.com , Ordernumber 112-1798) |

Optional Components

| units | description | comment |
|-------|-----------------|--|
| 5 | CU 400 EU/US/UK | Charging unit for WMS 400 transmitters, AC adapters included |

10 Channel WMS450/470 System with directional antennas & 20(40)m antenna cable (66 or 132 feet)

40m / 132 ft Version:
2x MKA20
BNC I-connector is necessary to link cables!
Available e.g. www.rs-components.com,
Ordernumber 112-1798

PS4000W – Power Splitter

Rear View

Antenna A cascade output
Antenna A input (DC power)
4x Antenna A output (DC power)

Signal level adjustment

Attenuation

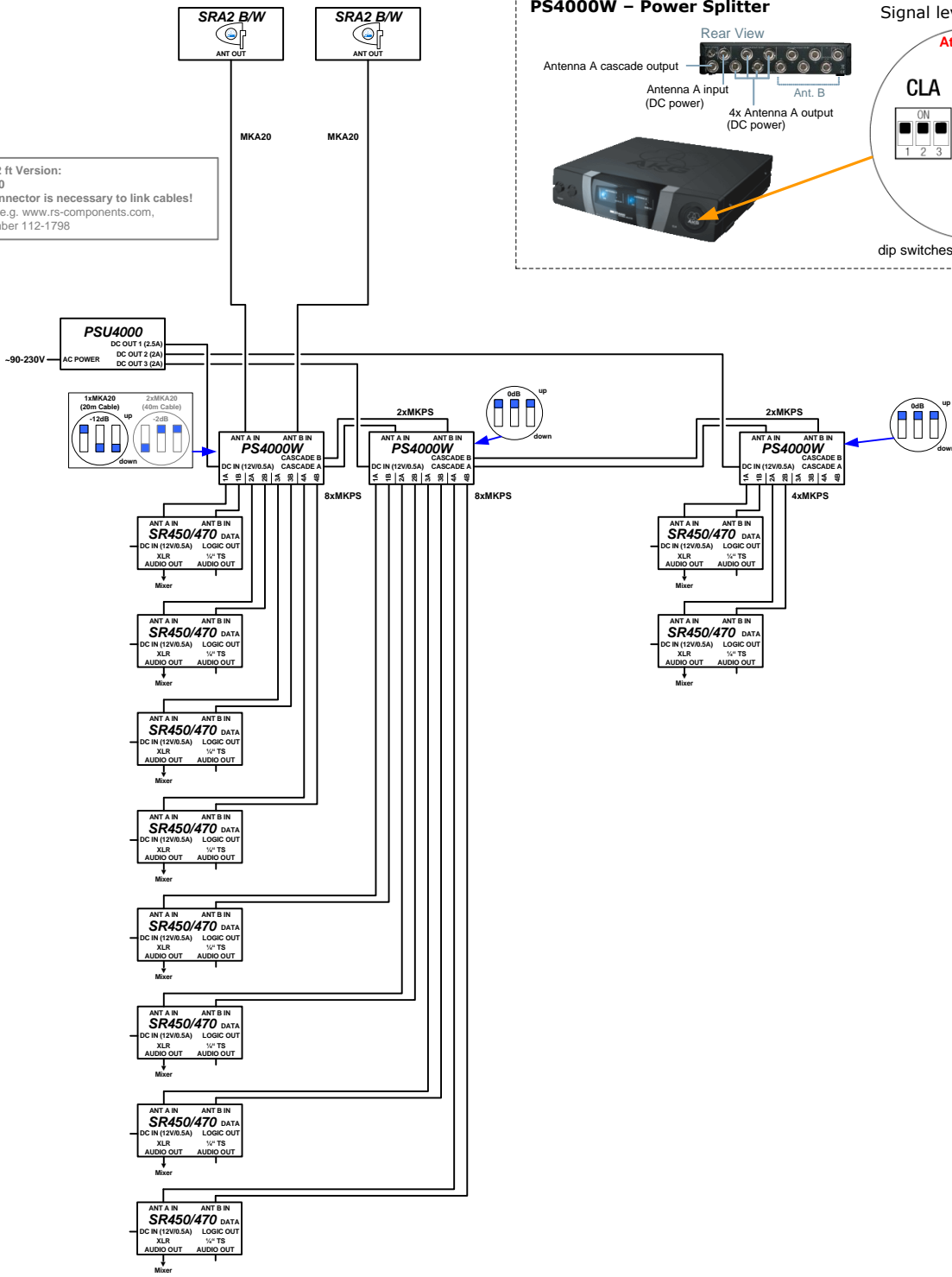
CLA

ON

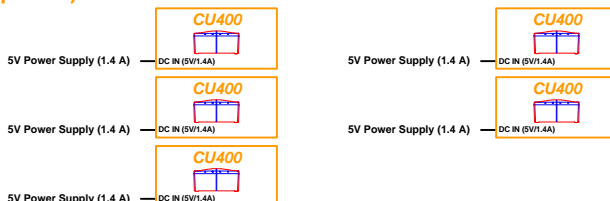
1 2 3

| | |
|-------|---|
| 14 dB | ● |
| 12 dB | ● |
| 10 dB | ● |
| 8 dB | ● |
| 6 dB | ● |
| 4 dB | ● |
| 2 dB | ● |
| 0 dB | ● |

dip switches behind AKG Logo



10 HT450/470 or PT450/470 charging system (optional)



| | | | |
|----------|--|----------|------------|
| Date | 15.01.2012 | Revision | 1.0 |
| Designer | Wolfgang Fritz | Ref.No. | MCS0802001 |
| Project | 10 channel WMS450/470 system (SRA2 B/W – Antennas) | | |



10 Channel WMS450/470 System with directional antennas

| units | description | comment |
|-------|----------------|--|
| 10 | WMS450/470 Set | Half-rack receiver with AC-Adapter; hand transmitter with D5 or C5 capsule, or pocket transmitter with MKGL, or C544L or C555 L+ CK99 L, 2 UHF antennas; RMU 4000 rack mount kit, 1 AA size battery, 1 stand adapter |
| 3 | PS4000 W | Wide band antenna multi coupler (4+1 out) without AC-Adapter |
| 2 | SRA 2 B/W | External directional active "paddle" antenna with amplifier (2 req.) |
| 24 | MK PS | Connecting cable for PS to SR 2.15ft (65cm) |
| 2 | MKA 20 | 66 ft. (20m) Cables for connecting ext. antennas to multi-couplers (2 req.) KOAX RG58 |
| 1 | PSU4000 | Central Power supply unit for powering up to three HUB4000Q, CU4000 or up to 12 receivers via PS4000W, Mains Cable |

| Additional parts for 40m(132feet) Antenna Cable | | |
|---|-----------------|--|
| 2 | MKA 20 | 66 ft. (20m) Cables for connecting ext. antennas to multi-couplers (2 req.) KOAX RG58 |
| 2 | BNC I-connector | EXTERNAL !! Not available at AKG - BNC I-Connector (you can buy it at www.rs-components.com , Ordernumber 112-1798) |

Optional Components

| units | description | comment |
|-------|-----------------|--|
| 5 | CU 400 EU/US/UK | Charging unit for WMS 400 transmitters, AC adapters included |

10 Channel WMS450/470 System with omni-directional antennas & 20(40)m antenna cable (66 or 132 feet)

40m / 132 ft Version:
2x MKA20
BNC I-connector is necessary to link cables!
Available e.g. www.rs-components.com,
Ordernumber 112-1798

PS4000W – Power Splitter

Rear View

Antenna A cascade output

Antenna A input (DC power)

Ant. B

4x Antenna A output (DC power)

Signal level adjustment

Attenuation

CLA

ON

1 2 3

14 dB

12 dB

10 dB

8 dB

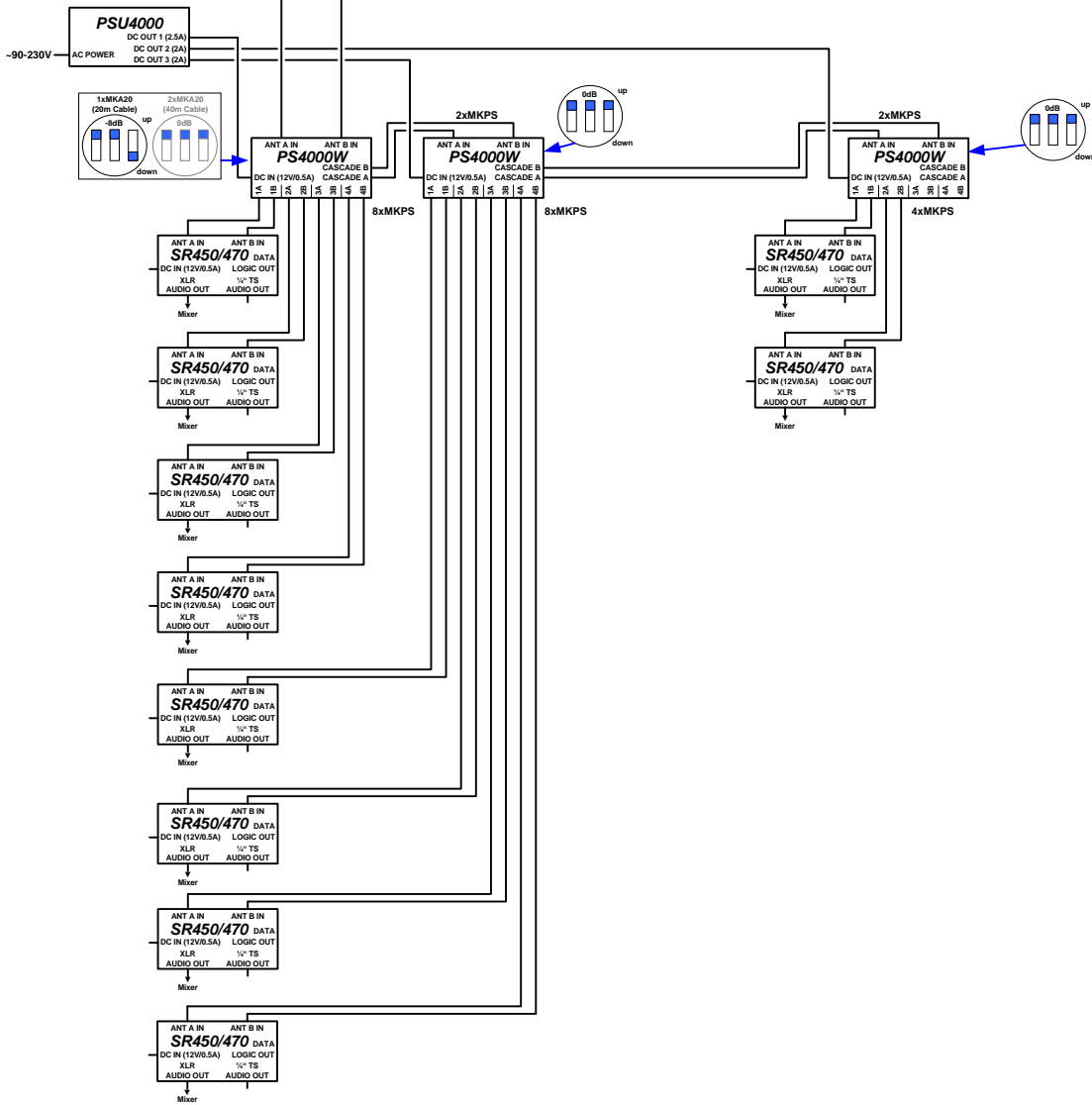
6 dB

4 dB

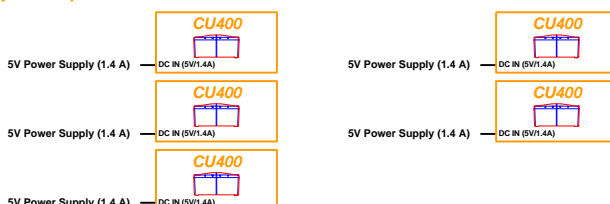
2 dB

0 dB

dip switches behind AKG Logo



10 HT450/470 or PT450/470 charging system (optional)



| | | | |
|----------|---|----------|------------|
| Date | 15.01.2012 | Revision | 1.0 |
| Designer | Wolfgang Fritz | Ref.No. | MCS0802001 |
| Project | 10 channel WMS450/470 system (RA4000 B/W – Antennas) | | |



10 Channel WMS450/470 System with omni-directional antennas

| units | description | comment |
|-------|----------------|--|
| 10 | WMS450/470 Set | Half-rack receiver with AC-Adapter; hand transmitter with D5 or C5 capsule, or pocket transmitter with MKGL, or C544L or C555 L+ CK99 L, 2 UHF antennas; RMU 4000 rack mount kit, 1 AA size battery, 1 stand adapter |
| 3 | PS4000 W | Wide band antenna multi coupler (4+1 out) without AC-Adapter |
| 2 | RA4000 B/W | External omni-directional active dipoleantenna with amplifier (2 req.) |
| 24 | MK PS | Connecting cable for PS to SR 2.15ft (65cm) |
| 2 | MKA 20 | 66 ft. (20m) Cables for connecting ext. antennas to multi-couplers (2 req.) KOAX RG58 |
| 1 | PSU4000 | Central Power supply unit for powering up to three HUB4000Q, CU4000 or up to 12 receivers via PS4000W, Mains Cable |

| Additional parts for 40m(132feet) Antenna Cable | | |
|---|-----------------|--|
| 2 | MKA 20 | 66 ft. (20m) Cables for connecting ext. antennas to multi-couplers (2 req.) KOAX RG58 |
| 2 | BNC I-connector | EXTERNAL !! Not available at AKG - BNC I-Connector (you can buy it at www.rs-components.com , Ordernumber 112-1798) |

Optional Components

| units | description | comment |
|-------|-----------------|--|
| 5 | CU 400 EU/US/UK | Charging unit for WMS 400 transmitters, AC adapters included |

12 Channel WMS450/470 System with directional antennas & 20(40)m antenna cable (66 or 132 feet)

40m / 132 ft Version:
2x MKA20
BNC I-connector is necessary to link cables!
Available e.g. www.rs-components.com,
Ordernumber 112-1798

PS4000W – Power Splitter

Rear View

Signal level adjustment

Attenuation

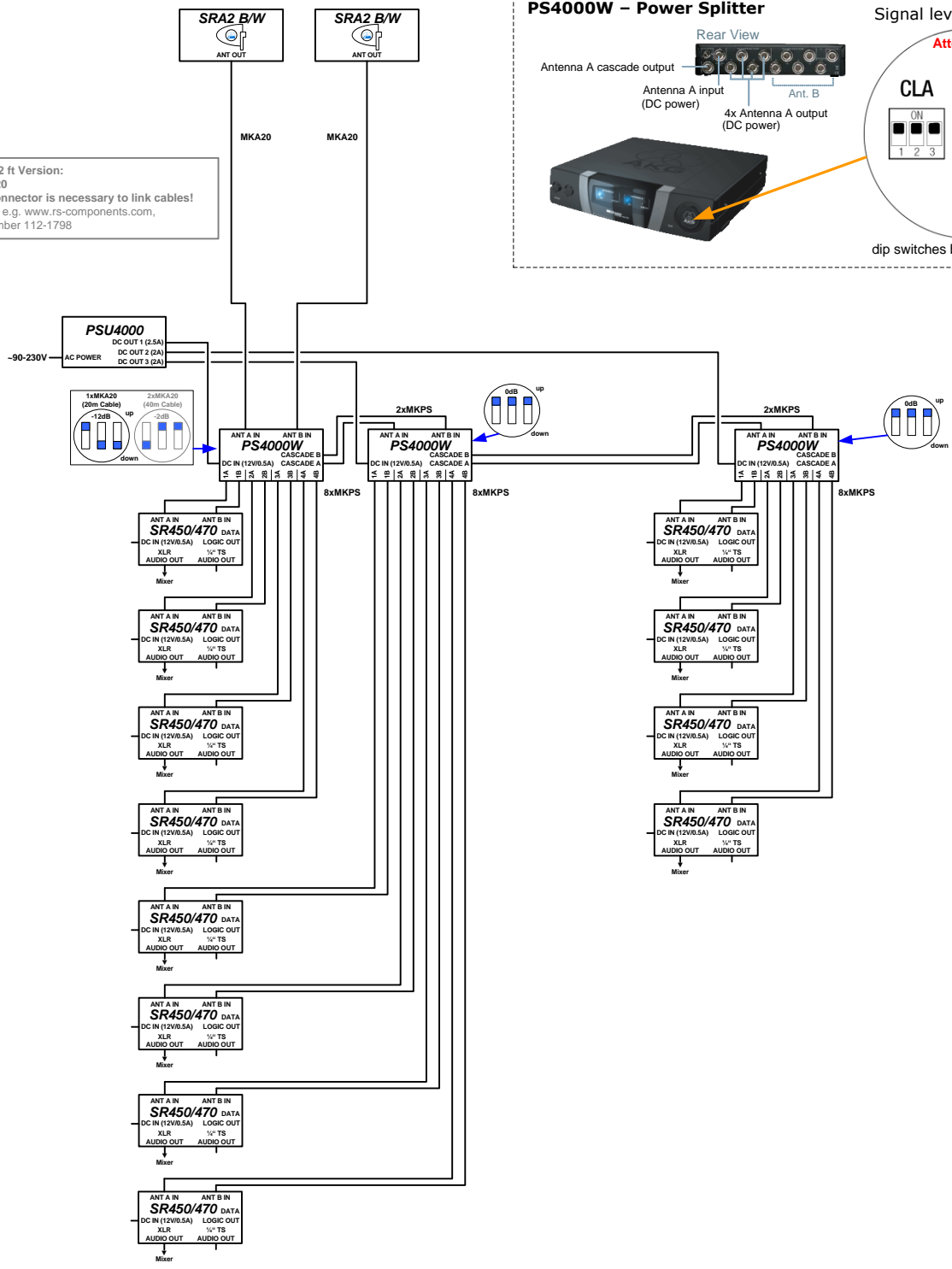
| |
|-------|
| 14 dB |
| 12 dB |
| 10 dB |
| 8 dB |
| 6 dB |
| 4 dB |
| 2 dB |
| 0 dB |

CLA

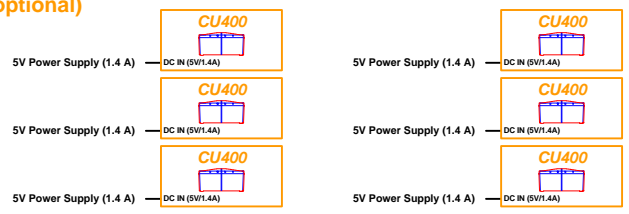
ON

1 2 3

dip switches behind AKG Logo



12 HT450/470 or PT450/470 charging system (optional)



| | | | |
|----------|--|----------|------------|
| Date | 15.01.2012 | Revision | 1.0 |
| Designer | Wolfgang Fritz | Ref.No. | MCS0802001 |
| Project | 12 channel WMS450/470 system (SRA2 B/W – Antennas) | | |



12 Channel WMS450/470 System with directional antennas

| units | description | comment |
|-------|----------------|--|
| 12 | WMS450/470 Set | Half-rack receiver with AC-Adapter; hand transmitter with D5 or C5 capsule, or pocket transmitter with MKGL, or C544L or C555 L+ CK99 L, 2 UHF antennas; RMU 4000 rack mount kit, 1 AA size battery, 1 stand adapter |
| 3 | PS4000 W | Wide band antenna multi coupler (4+1 out) without AC-Adapter |
| 2 | SRA 2 B/W | External directional active "paddle" antenna with amplifier (2 req.) |
| 28 | MK PS | Connecting cable for PS to SR 2.15ft (65cm) |
| 2 | MKA 20 | 66 ft. (20m) Cables for connecting ext. antennas to multi-couplers (2 req.) KOAX RG58 |
| 1 | PSU4000 | Central Power supply unit for powering up to three HUB4000Q, CU4000 or up to 12 receivers via PS4000W, Mains Cable |

| Additional parts for 40m(132feet) Antenna Cable | | |
|---|-----------------|--|
| 2 | MKA 20 | 66 ft. (20m) Cables for connecting ext. antennas to multi-couplers (2 req.) KOAX RG58 |
| 2 | BNC I-connector | EXTERNAL !! Not available at AKG - BNC I-Connector (you can buy it at www.rs-components.com , Ordernumber 112-1798) |

Optional Components

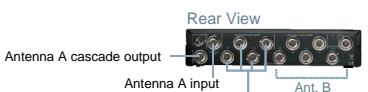
| units | description | comment |
|-------|-----------------|--|
| 6 | CU 400 EU/US/UK | Charging unit for WMS 400 transmitters, AC adapters included |

12 Channel WMS450/470 System with omni-directional antennas & 20(40)m antenna cable (66 or 132 feet)

40m / 132 ft Version:
2x MKA20
BNC I-connector is necessary to link cables!
Available e.g. www.rs-components.com,
Ordernumber 112-1798

PS4000W – Power Splitter

Rear View



Signal level adjustment

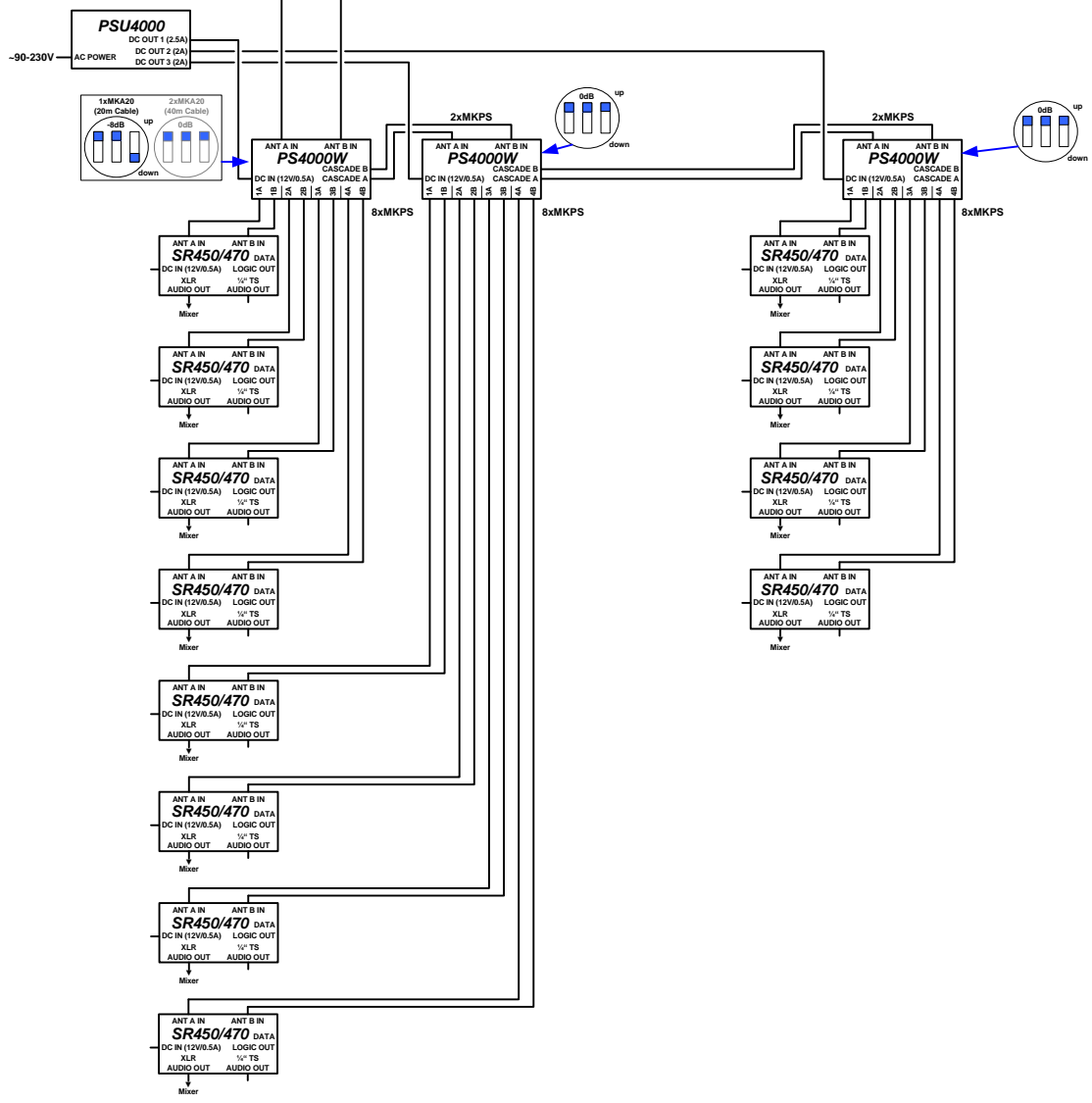
Attenuation

CLA

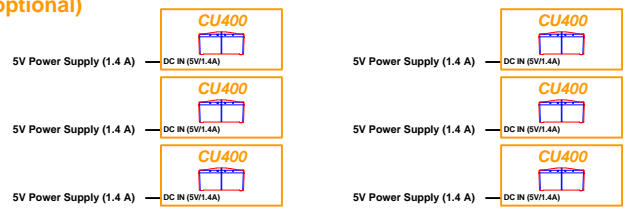
ON

| | |
|-------|--------------------------|
| 14 dB | <input type="checkbox"/> |
| 12 dB | <input type="checkbox"/> |
| 10 dB | <input type="checkbox"/> |
| 8 dB | <input type="checkbox"/> |
| 6 dB | <input type="checkbox"/> |
| 4 dB | <input type="checkbox"/> |
| 2 dB | <input type="checkbox"/> |
| 0 dB | <input type="checkbox"/> |

dip switches behind AKG Logo



12 HT450/470 or PT450/470 charging system (optional)



| | | | |
|----------|--|----------|------------|
| Date | 15.01.2012 | Revision | 1.0 |
| Designer | Wolfgang Fritz | Ref.No. | MCS0802001 |
| Project | 12 channel WMS450/470 system (RA4000 B/W – Antennas) | | |



12 Channel WMS450/470 System with omni-directional antennas

| units | description | comment |
|-------|----------------|--|
| 12 | WMS450/470 Set | Half-rack receiver with AC-Adapter; hand transmitter with D5 or C5 capsule, or pocket transmitter with MKGL, or C544L or C555 L+ CK99 L, 2 UHF antennas; RMU 4000 rack mount kit, 1 AA size battery, 1 stand adapter |
| 3 | PS4000 W | Wide band antenna multi coupler (4+1 out) without AC-Adapter |
| 2 | RA4000 B/W | External omni-directional active dipoleantenna with amplifier (2 req.) |
| 28 | MK PS | Connecting cable for PS to SR 2.15ft (65cm) |
| 2 | MKA 20 | 66 ft. (20m) Cables for connecting ext. antennas to multi-couplers (2 req.) KOAX RG58 |
| 1 | PSU4000 | Central Power supply unit for powering up to three HUB4000Q, CU4000 or up to 12 receivers via PS4000W, Mains Cable |

| Additional parts for 40m(132feet) Antenna Cable | | |
|---|-----------------|--|
| 2 | MKA 20 | 66 ft. (20m) Cables for connecting ext. antennas to multi-couplers (2 req.) KOAX RG58 |
| 2 | BNC I-connector | EXTERNAL !! Not available at AKG - BNC I-Connector (you can buy it at www.rs-components.com , Ordernumber 112-1798) |

Optional Components

| units | description | comment |
|-------|-----------------|--|
| 6 | CU 400 EU/US/UK | Charging unit for WMS 400 transmitters, AC adapters included |

16 Channel WMS450/470 System with directional antennas & 20(40)m antenna cable (66 or 132 feet)

40m / 132 ft Version:
2x MKA20
BNC I-connector is necessary to link cables!
Available e.g. www.rs-components.com,
Ordernumber 112-1798

PS4000W – Power Splitter

Signal level adjustment

Attenuation

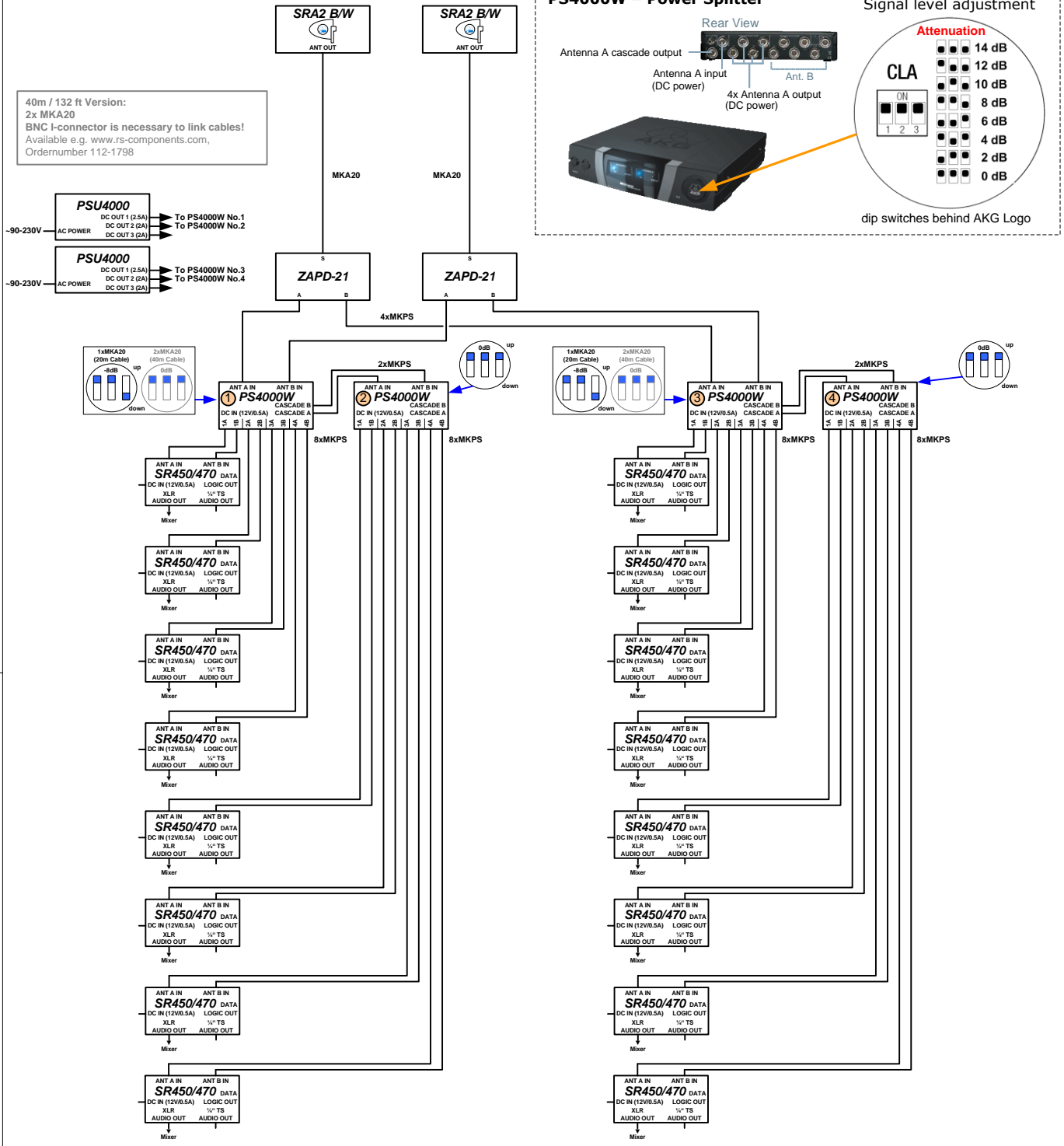
CLA

| | |
|-------|--------------------------|
| 14 dB | <input type="checkbox"/> |
| 12 dB | <input type="checkbox"/> |
| 10 dB | <input type="checkbox"/> |
| 8 dB | <input type="checkbox"/> |
| 6 dB | <input type="checkbox"/> |
| 4 dB | <input type="checkbox"/> |
| 2 dB | <input type="checkbox"/> |
| 0 dB | <input type="checkbox"/> |

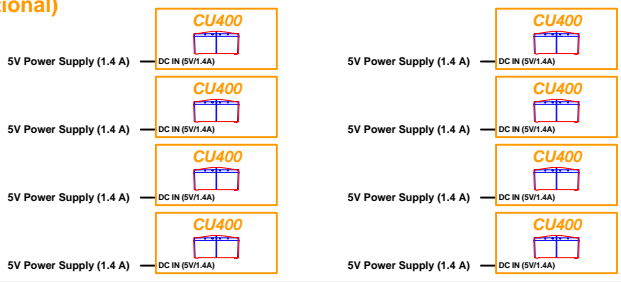
ON

1 2 3

dip switches behind AKG Logo



16 HT450/470 or PT450/470 charging system (optional)



| | | | |
|----------|--|----------|------------|
| Date | 15.01.2012 | Revision | 1.0 |
| Designer | Wolfgang Fritz | Ref.No. | MCS0802001 |
| Project | 16 channel WMS450/470 system (SRA2 B/W – Antennas) | | |



16 Channel WMS450/470 System with directional antennas

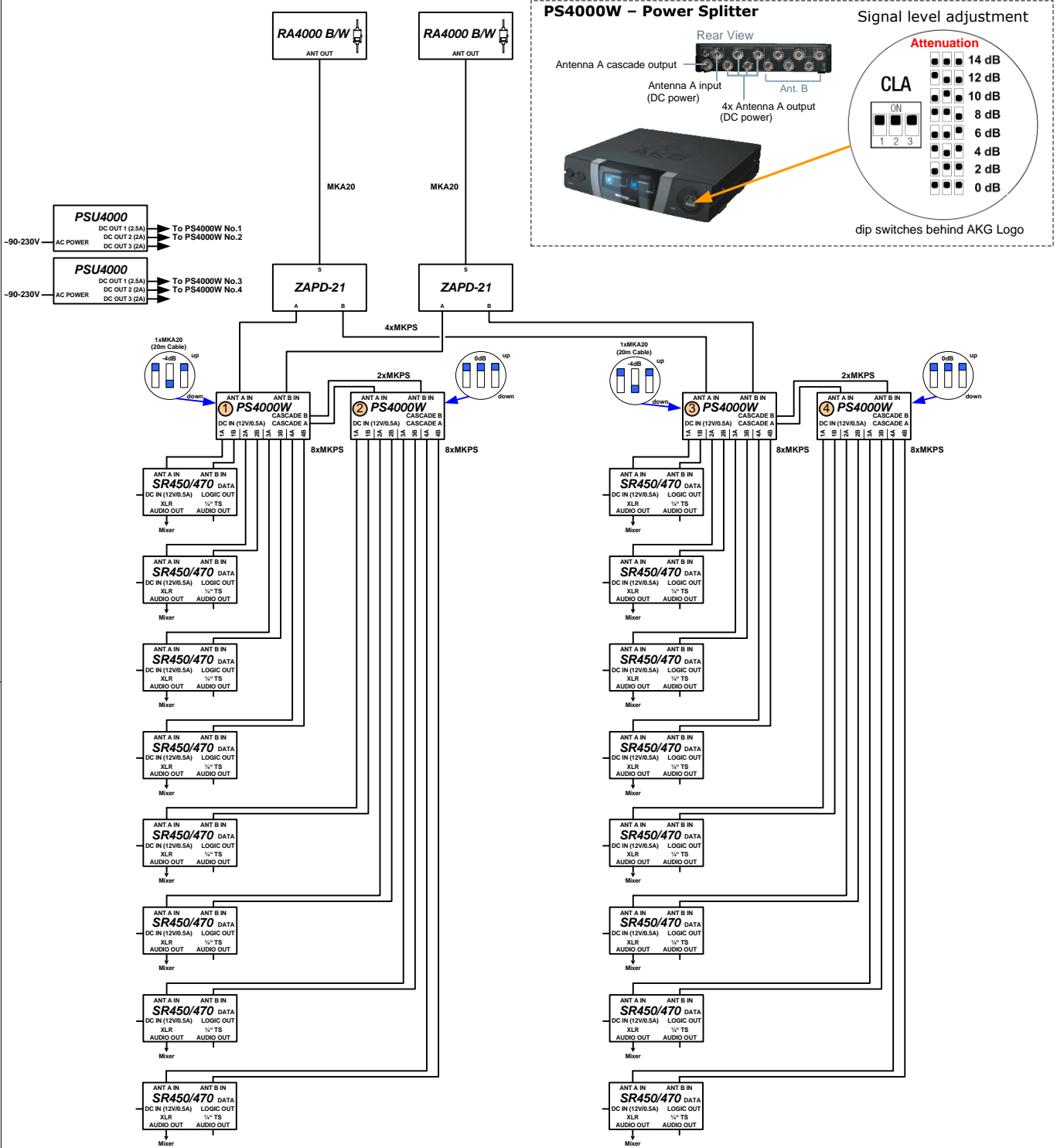
| units | description | comment |
|-------|----------------|--|
| 16 | WMS450/470 Set | Half-rack receiver with AC-Adapter; hand transmitter with D5 or C5 capsule, or pocket transmitter with MKGL, or C544L or C555 L+ CK99 L, 2 UHF antennas; RMU 4000 rack mount kit, 1 AA size battery, 1 stand adapter |
| 4 | PS4000 W | Wide band antenna multi coupler (4+1 out) without AC-Adapter |
| 2 | SRA 2 B/W | External directional active "paddle" antenna with amplifier (2 req.) |
| 40 | MK PS | Connecting cable for PS to SR 2.15ft (65cm) |
| 2 | MKA 20 | 66 ft. (20m) Cables for connecting ext. antennas to multi-couplers (2 req.) KOAX RG58 |
| 2 | PSU4000 | Central Power supply unit for powering up to three HUB4000Q, CU4000 or up to 12 receivers via PS4000W, Mains Cable |
| 2 | ZAPD21 | passive power combiner (2in 1out) or Splitter (1in 2out) |

| Additional parts for 40m(132feet) Antenna Cable | | |
|---|-----------------|--|
| 2 | MKA 20 | 66 ft. (20m) Cables for connecting ext. antennas to multi-couplers (2 req.) KOAX RG58 |
| 2 | BNC I-connector | EXTERNAL !! Not available at AKG - BNC I-Connector (you can buy it at www.rs-components.com , Ordernumber 112-1798) |

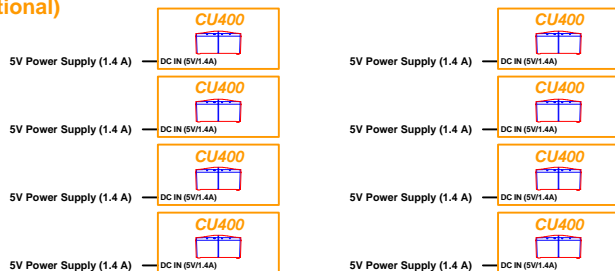
Optional Components

| units | description | comment |
|-------|-----------------|--|
| 8 | CU 400 EU/US/UK | Charging unit for WMS 400 transmitters, AC adapters included |

16 Channel WMS450/470 System with omni-directional antennas & 20m antenna cable (66 feet)



16 HT450/470 or PT450/470 charging system (optional)



| | | | |
|----------|--|----------|------------|
| Date | 15.01.2012 | Revision | 1.0 |
| Designer | Wolfgang Fritz | Ref.No. | MCS0802001 |
| Project | 16 channel WMS450/470 system (RA4000 B/W – Antennas) | | |



16 Channel WMS450/470 System with omni-directional antennas

| units | description | comment |
|-------|----------------|--|
| 16 | WMS450/470 Set | Half-rack receiver with AC-Adapter; hand transmitter with D5 or C5 capsule, or pocket transmitter with MKGL, or C544L or C555 L+ CK99 L, 2 UHF antennas; RMU 4000 rack mount kit, 1 AA size battery, 1 stand adapter |
| 4 | PS4000 W | Wide band antenna multi coupler (4+1 out) without AC-Adapter |
| 2 | RA4000 B/W | External omni-directional active dipoleantenna with amplifier (2 req.) |
| 40 | MK PS | Connecting cable for PS to SR 2.15ft (65cm) |
| 2 | MKA 20 | 66 ft. (20m) Cables for connecting ext. antennas to multi-couplers (2 req.) KOAX RG58 |
| 2 | PSU4000 | Central Power supply unit for powering up to three HUB4000Q, CU4000 or up to 12 receivers via PS4000W, Mains Cable |
| 2 | ZAPD21 | passive power combiner (2in 1out) or Splitter (1in 2out) |

Optional Components

| units | description | comment |
|-------|-----------------|--|
| 8 | CU 400 EU/US/UK | Charging unit for WMS 400 transmitters, AC adapters included |