

TeamConnect

SL TeamConnect CU1, Central Unit
SL TeamConnect CB1, Combox

FEATURES

- Connectivity via landline and PC/VoIP for tele- and web conferencing
- One solution with high flexibility for end-users
- Easy to use with iOS app or any network device via web server application
- Hassle free operation with nearly any personal mobile device
- Sennheiser well known audio quality
- High efficiency of remote meetings because of high speech intelligibility and audio quality
- Complete audio solution for standard meeting rooms
- Minimum effort of administration and maintenance

With **TeamConnect** Sennheiser provides a professional complete audio system for meeting rooms which require a web and telephone conference infrastructure. Due to the optimization for speech intelligibility all TeamConnect components such as microphones and loudspeakers match perfectly. By using your business devices such as your iPad or your notebook you will be able to start the meeting immediately. All necessary components are provided by Sennheiser with the main objective: you care for your business, Sennheiser for your conversations at meetings.



CU1



CB1

ARCHITECT'S SPECIFICATIONS

SL TeamConnect CUCB1

A complete professional audio system for web and teleconferencing applications in standard meeting rooms, comprised of a central unit, a combox and other devices such as microphones and active loudspeakers.

The central unit shall be an automatic mixer for professional quality audio in multiple microphone web and teleconferencing applications. It shall provide advanced mixing capabilities and configuration options.

All devices used in the system shall be connected to the central unit.

The combox shall be the audio interface of the system. It shall be used to add USB and headset audio to the system and to process computer audio as well as telephone headset

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TECHNICAL DATA

SL TeamConnect CU1

HOUSING

Dimensions (W x H x D).....	17" x 7.5" x 2" (43.2 cm x 19.1 cm x 5.1 cm)
Weight.....	4.5 lbs. (2.25 kg)

AUDIO PERFORMANCE

Conditions.....	Unless otherwise specified, all measurements are performed with a 20 Hz to 22 kHz
Frequency response	20 Hz to 22 kHz
Noise (EIN)	-124 dBu, 22 kHz, max gain Rs = 150 Ω
THD+N	< 0.02 %
Dynamic range.....	100 dB (non A-weighted)
Crosstalk.....	< -91 dB, rel 17 dBu
Sampling rate	48 kHz
A/D – D/A converters	24-bit

Continued on page 2

or enterprise telephone audio in the system. The connection between the central unit and the combox shall be made by means of a standard CAT5 cable.

The central unit shall have a frequency response of 20 – 22,000 Hz. Equivalent input noise (EIN) shall be –124 dBu, 22 kHz max gain $R_s = 150 \Omega$. THD plus noise shall be less than 0.02 %, the dynamic range shall be 100 dB (non A-weighted) and crosstalk shall be less than –91 dB (rel. 17 dBu). The sampling rate shall be 48 kHz and the A/D – D/A converters shall be 24 bit.

The central unit shall be equipped with a TELCO telephone interface with two RJ-11 sockets: one for connecting to the analog landline network, the other for connecting an analog telephone. An Ethernet port (RJ-45) shall be provided for network connections. The central unit shall feature an RS-232 control port for connecting a third party media control system (Creston, AMX, etc.) and a link input (RJ-45) for connecting the combox. The central unit shall have a USB 2.0 port for connecting a PC for configuration purposes and shall also be configurable via the RS-232 port or the network (Ethernet port). The required "Configuration Manager" PC software for configuring the central unit and all other components shall be supplied.

The central unit shall be equipped with eight mic/line inputs for connecting microphones and/or line sources. The mic/line inputs shall accept maximum input levels from –65 dBu to +17 dBu. 24 V phantom power shall be available on each mic/line input. In addition, two audio inputs shall be provided for connecting line level devices only. The line level inputs shall accept a maximum input of 17 dBu. Input impedance shall be 10 k Ω balanced.

The central unit shall feature eight audio outputs for outputting audio to active loudspeakers or other audio devices. The output terminal shall deliver a nominal level of 0 dBu and a maximum level of 17 dBu, with an output impedance of 50 Ω .

Continued on page 3

TECHNICAL DATA

MIC / LINE INPUTS 1-8

Impedance	10 k Ω balanced
Maximum level	–65 dBu to +17 dBu
Echo cancellation.....	128 ms tail time (works with 12 dB of room gain)
Phantom power	24 V DC at 10 mA

LINE INPUTS 1-2

Impedance	10 k Ω balanced
Maximum level	17 dBu

LINE OUT OUTPUTS 1-8

Impedance	50 Ω
Nominal level	0 dBu
Maximum level	17 dBu

TELEPHONE INTERFACE

Telephone audio performance conditions.....	Unless otherwise specified, all measurements are performed with Transmit Limiter and Receive ALC disabled
Frequency response	250 Hz to 3.3 kHz ± 1 dB
THD+N	< 0.30 % re-max level 250 Hz to 3.3 kHz
SNR.....	> 62 dB re-max level
Telco line echo cancellation.....	Tail time: 32 ms Null: 55 dB nominal
Telephone noise cancellation	6–15 dB attenuation

RS-232 CONTROL PORT

Connector.....	DB9 female
Baud rates	9,600 / 19,200 / 38,400 / 57,600 (default) / 115,200
Protocol	8-bit / 1 stop / no parity
Hardware flow control	ON (default)/OFF

SL TeamConnect CB1

HOUSING

Dimensions (W x H x D).....	4.7" x 5.6" x 1.7" (11.9 cm x 14.3 cm x 4.4 cm)
Weight.....	1.51 lbs. (0.75 kg)

AUDIO PERFORMANCE

Frequency response	40 to 3,300 Hz THD
Noise	< 0.04 % re-max level with 0 dB gain at 1 kHz
Dynamic range.....	> 84 dB (non A-weighted)

Continued on page 3

The central unit shall operate on 12 V DC power supplied by an external power supply (100-240 V AC, 47/63 Hz).

The central unit shall be rack-mountable and shall come complete with two 19" rack-mount ears.

Using the "Configuration Manager" software, the central unit's mic/line inputs shall be configurable to the following settings:

1. Echo cancellation – effectively eliminates echo in order to improve audio quality. Two out of the eight outputs shall be selectable as the acoustic echo cancellation reference. If all eight output channels do not suit the echo cancellation needs, two virtual reference channels shall be selectable as the reference for echo cancellation.
2. Push to talk – configures the PTT mode of a connected microphone
3. Noise cancellation – reduces background noise in the meeting room
4. Automatic level control – maintains a constant audio level to ensure the audio is intelligible
5. Non-linear processing – options: Aggressive, Medium, Soft or Off, can be set depending on the noise level in the room

The software shall allow the configuration of three processing channels with different audio settings (filter, compressor, etc.).

The settings of the processing channels may be applied to one or several selected inputs or outputs.

The software shall feature a Device Toolbox and a Mixer Console. The Device Toolbox shall contain a list of common audio devices with their audio setting presets. The audio setting presets of the listed devices may be applied to the audio channels of the central unit.

The Mixer Console shall allow routing of the input audio to the desired audio outputs using a matrix array. All configuration settings adjusted with the software shall be savable as presets in one of four preset slots.

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TECHNICAL DATA

EXTERNAL POWER SUPPLY

DC output voltage.....	+12 V
AC input voltage.....	100 to 240 V AC
AC input frequency.....	47 to 63 Hz
Input current	0.8 A (RMS) max. at 115 V AC 0.5 A (RMS) max. at 240 V AC
Leakage current	3.5 mA max.
Output power.....	30 W
Temperature.....	Operation: 0 to +40 °C Storage: -30 to +85 °C
Relative air humidity.....	20 to 90 %

DELIVERY INCLUDES

- 1 Central Unit SL TeamConnect CU1
- 1 Combox SL TeamConnect CB1
- 1 mains cable (EU, UK or US)
- 1 power adapter
- 4 rack mount screws
- 4 rubber washers for the rack mount screws
- 8 3-pin orange terminal connectors
- 2 3-pin green terminal connectors
- 8 3-pin black terminal connectors
- 1 6-pin black terminal connector
- 1 RJ-9 cable
- 1 RJ-11 cable
- 2 RJ-45 cables
- 1 RJ-45 patch cable
- 1 USB cable
- 1 quick guide
- 1 quick guide sticker
- 1 room sticker
- 1 safety guide

TeamConnect SL TeamConnect CU1, SL TeamConnect CB1

Using the "TeamConnect" mobile dialer iOS app for iPad/iPhone or a browser-based dialer for computers, the central unit shall be remote controllable. The dialer used shall be capable of establishing the telephone connection for teleconferencing and shall include functions such as selecting and applying previously saved configuration presets, adjusting the volume and accessing a phone book.

The combox shall be "plug and play". It shall have a link output (RJ-45) for connecting to the central unit and shall feature a USB 2.0 port for connecting a PC for processing audio in web conferencing applications. A headset socket (RJ-9) shall be provided for connecting a telephone headset or the headset connector of an enterprise telephone.

In addition, the combox shall be equipped with a GPIO port for connecting external switches or status indicators. The pin allocation of the GPIO port shall be as follows: pin 1: microphone mute control, pin 2: microphone mute status, pin 3: on/off hook control, pin 4: on/off hook status, pin 5: 5 V DC power supply, pin 6: ground.

The combox shall have a "power on" indicator on the front panel.

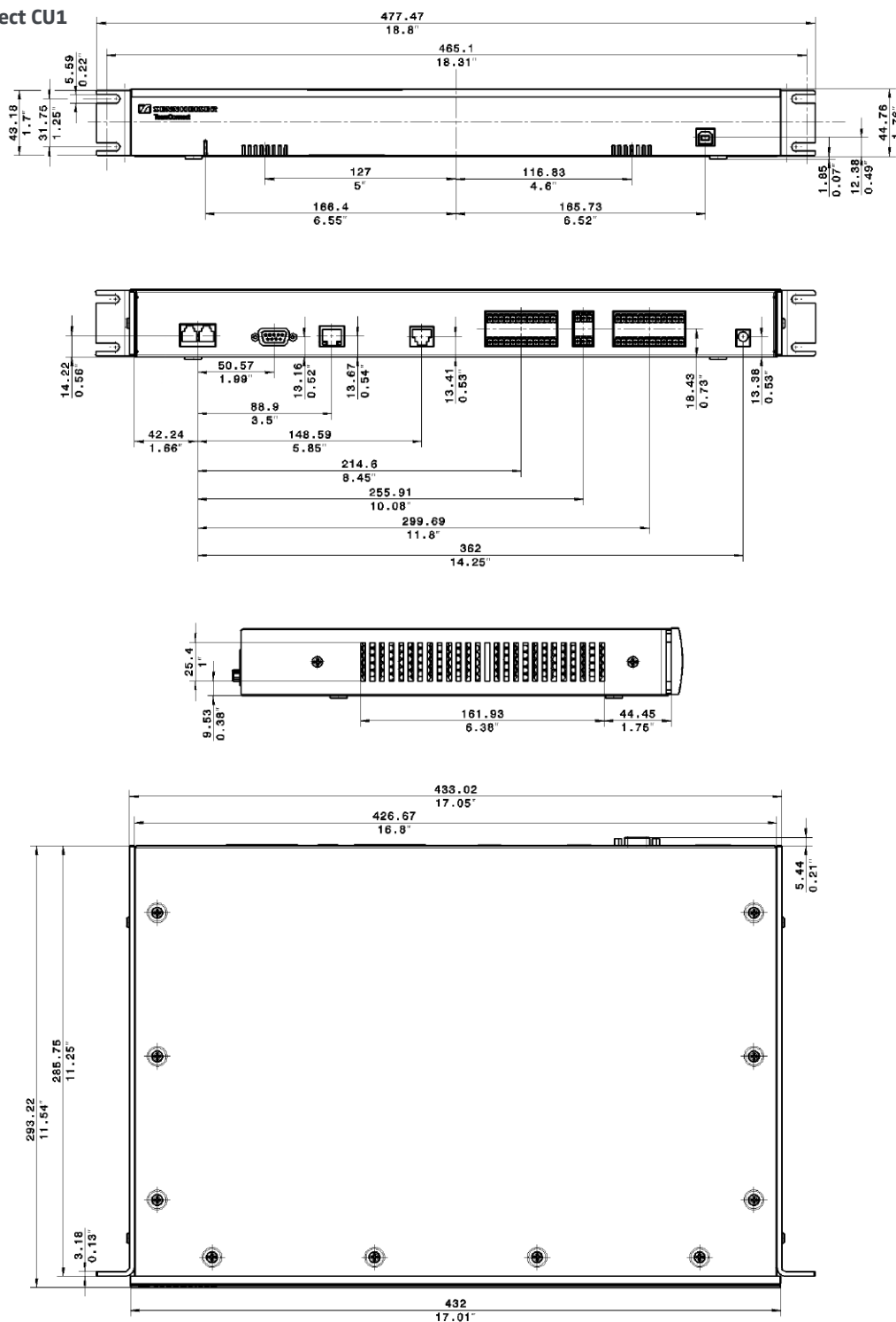
The frequency response of the combox shall range from 40 – 3,300 Hz (THD). Noise shall be less than 0.04 % re-max level with 0 dB gain at 1 kHz, dynamic range shall be more than 84 dB (non A-weighted).

Housing dimensions shall be as follows: central unit: 432 x 191 x 51 mm (17" x 7.5" x 2"), combox: 119 x 143 x 44 mm (4.7" x 5.6" x 1.7"). Approximate weights shall be as follows: central unit: 2.25 kg (4.5 lbs.), combox: 0.75 kg (1.51 lbs.).

The system shall be the Sennheiser SL TeamConnect CUCB1.

DIMENSIONS

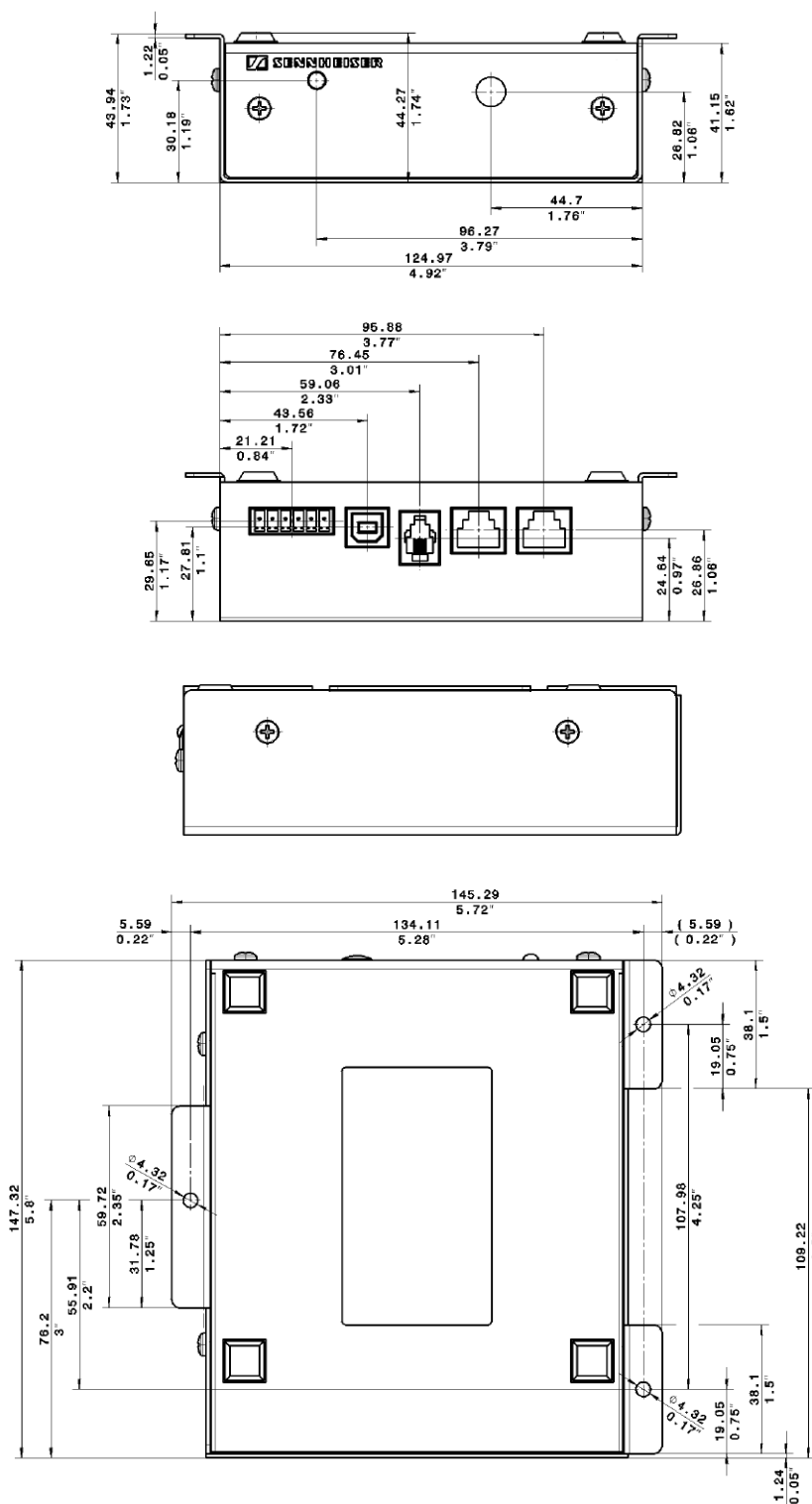
SL TeamConnect CU1



Dimensions
in
mm
←
inch

DIMENSIONS

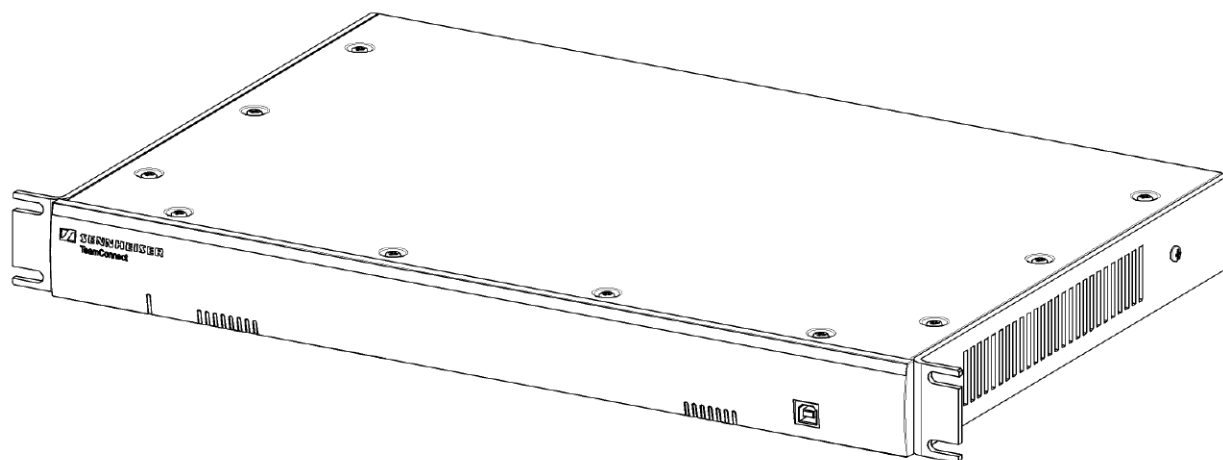
SL TeamConnect CB1



TeamConnect SL TeamConnect CU1, SL TeamConnect CB1

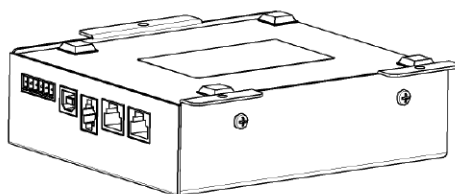
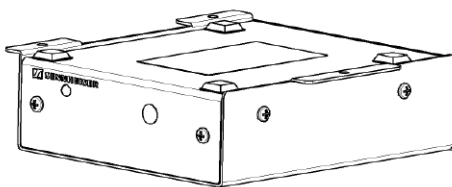
DIMENSIONS

SL TeamConnect CU1



DIMENSIONS

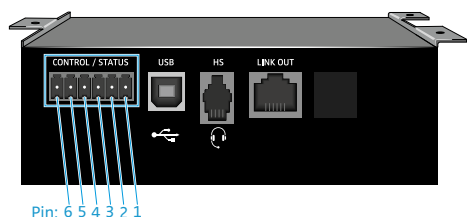
SL TeamConnect CB1



TeamConnect SL TeamConnect CU1, SL TeamConnect CB1

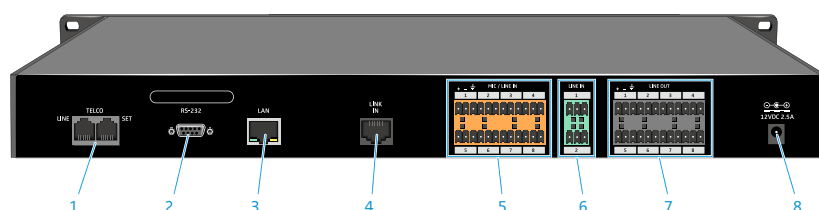
Serial Commands

SL TeamConnect CB1, Combox



Pin	Allocation	Function
Pin 1	Microphone mute control	Master mute function for all microphones
Pin 2	Microphone mute status	Status of the master mute function
Pin 3	On/Off hook control	Opens or closes the telephone line
Pin 4	On/Off hook status	Sends the status of the telephone line
Pin 5	5 V DC (up to 40 mA)	Power supply
Pin 6	Ground	Ground

SL TeamConnect CU1, Central Unit



1	TELCO telephone interface	LINE: RJ-11 socket for connecting the CU1 to the analog landline network SET: RJ-11 socket for connecting an analog telephone set to the CU1
2	RS-232 control port	Control port for connecting a 3rd party media control system (e.g. AMX or Crestron)
3	LAN RJ-45 socket	Ethernet port (10/100 Mbps) for connecting the CU1 to a network
4	LINK IN RJ-45 socket	Link input for connecting the CB1 to the CU1
5	MIC / LINE IN inputs	Audio input terminal for microphone and/or line level inputs
6	LINE IN inputs	Audio input terminal for line level inputs only
7	LINE OUT outputs	Audio output terminal
8	Power adapter input	12 V DC 2.5 A

Serial Commands RS-232 control port

Pin	User Definable	Control
Pin 1	N	DCD
Pin 2	N	TXD
Pin 3	N	RXD
Pin 4	N	DTR
Pin 5	N	Ground
Pin 6	N	DSR
Pin 7	N	CTS
Pin 8	N	RTS
Pin 9	N	No Connection

PRODUCT VARIANTS

TeamConnect CUCB1 EU
TeamConnect CUCB1 GB
TeamConnect CUCB1 US

Art.-No. 506235
Art.-No. 506236
Art.-No. 506237

MEB 104 B
MEB 104-L B
MEB 104-L W
MEB 104-L G
MEB 114-S B
MEB 114-S W
MEB 114-S G
MAS 1 B
MAS 1 W
MAS 1 G
MAS 133

Art.-No. 505606
Art.-No. 505609
Art.-No. 505610
Art.-No. 505611
Art.-No. 505615
Art.-No. 505616
Art.-No. 505617
Art.-No. 505618
Art.-No. 505619
Art.-No. 505620
Art.-No. 505621

RECOMMENDED ACCESSORIES

SL Loudspeaker 52 A W
MEB 102-L W
MEB 102-L G

Art.-No. 506243
Art.-No. 505604
Art.-No. 505605

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