

## Transmit Antenna Matrix Stripline Matrix Serie S31020-xx



The Antenna Matrix series S31020-xx is used for connecting transmitters to antennas with a power up to 30 kW in the frequency range DC to 32 MHz.

The matrix is designed to allow only one transmitter to be switched to one antenna. During switching an interlock relay is opened and inhibits transmitting by the power amplifier.

If an antenna is not selected for a transmitter, the antenna is automatically grounded.

By means of a key-locked manual switch each antenna output can be grounded.

**Figure – 1:** Matrix 20 x 20

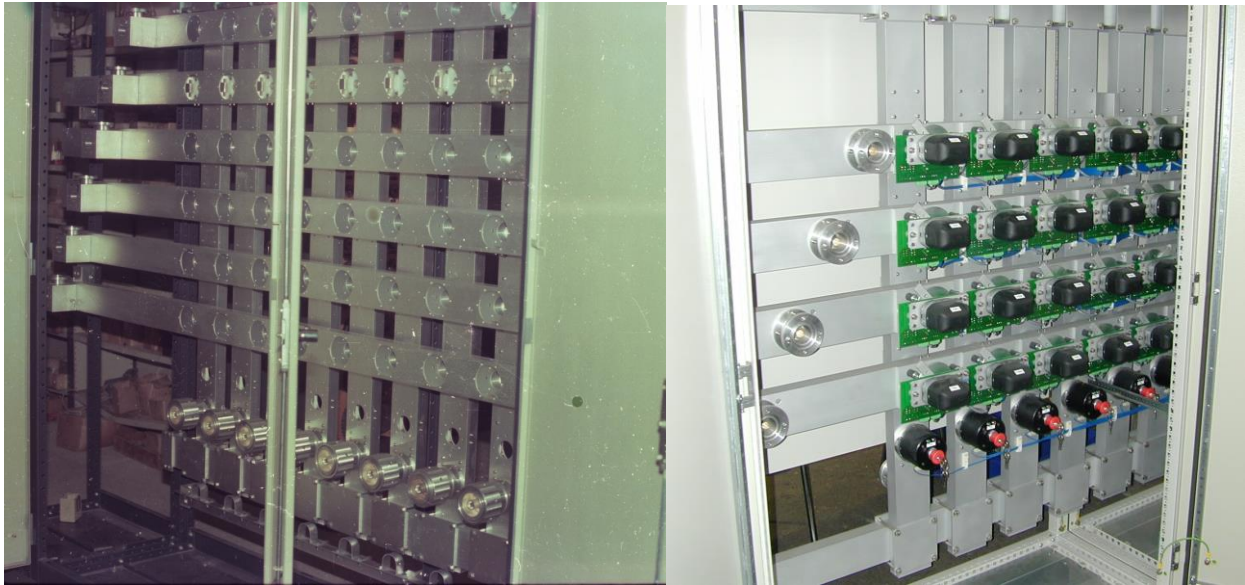
### Technical Data

<b>Electrical</b>	Supply voltage	110-230 VAC, 50 Hz, 1ph 24/7 operation	
	RF	Impedance	50 Ohm nom.
		VSWR	1.1:1 with 50-Ohm load connected (Matrix 25 x 25)
	Insertion Loss	max. 0.3 dB at longest path (Matrix 25 x 25)	
	RF-power Connectors	up to 30 kW avg. according power requirements Standard connectors: N, 7-16, 13-10, EIA 7/8", EIA 1 5/8", EIA 3 1/8" Other connectors available on request.	
	Isolation	70 dB min.	
<b>Mechanical</b>	Rack type	Self-supporting rack Standard connector configuration: Input (from transmitters): left side Output (to antennas, load): top Other configuration possible.	
	Dimensions	depending on matrix size and RF- power requirement	
<b>Environmental</b>	Operating temperature	0°C to +50°C	
	Storage temperature	-10°C to +85°C	
	Humidity	10% to 90%, non-condensing Indoor use	

<b>Options</b>	Customer specific connectors and connector configuration Built in or external load Remote control unit with customer specific control interfaces (e.g. GPIB, TCP/IP, RS-232)
<b>Order information</b>	Matrix sizes from 4 Inputs / 4 Outputs up to 30 inputs / 40 outputs possible
<b>Example</b>	Matrix size 4 x 11                      S31020-0411 Matrix size 6 x 6                        S31020-0606 Matrix size 25 x 30                      S31020-2530

**Additional features:**

- Local control of matrix functions.
- Non-blocking RF-lines: Each transmitter can be connected to any antenna without restrictions. One transmitter can be connected to only one antenna, one antenna can be connected to only one transmitter.



**Figure – 2:** Matrix during assembly phases



Figure – 3: Matrix 6 x 6 (during final test phase)

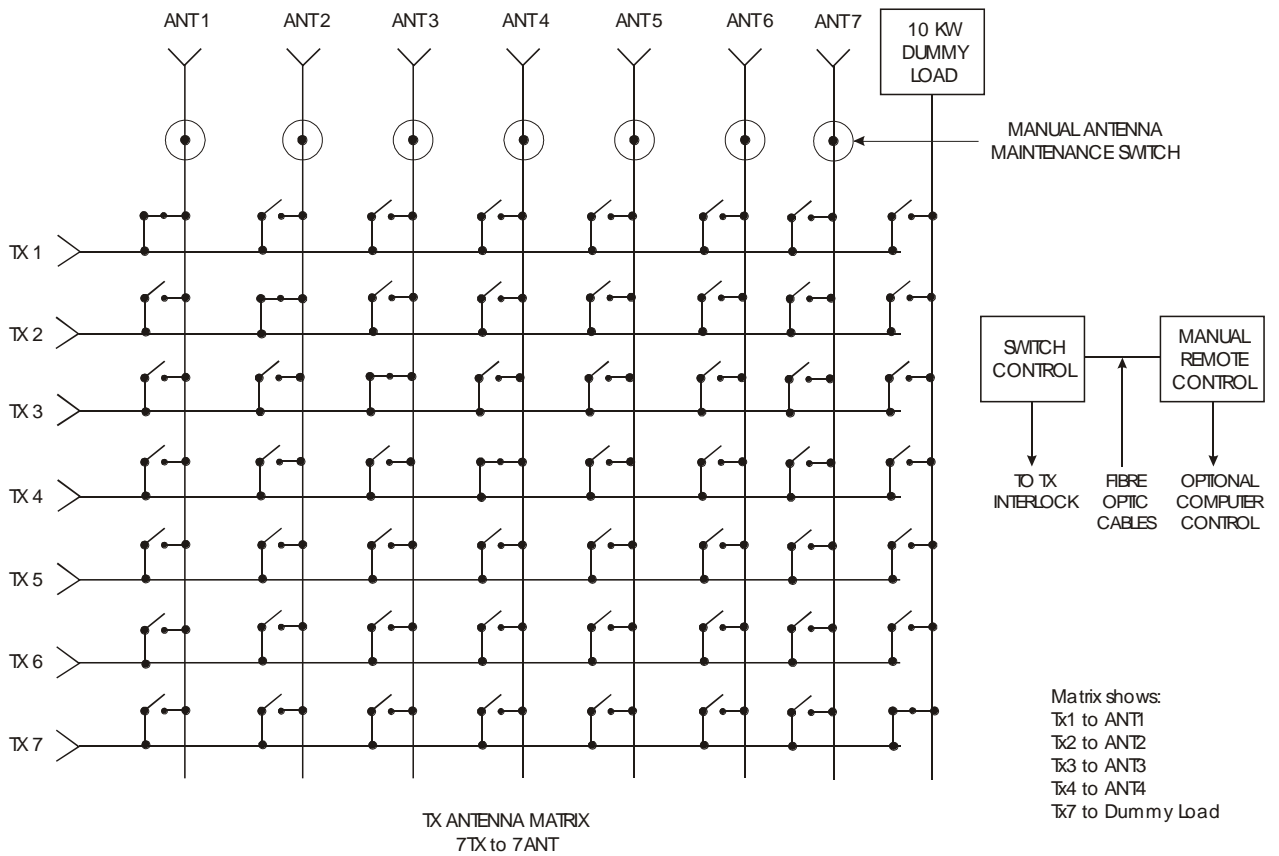


Figure 1: Example for RF-wiring of matrix 7 x 8 (with dummy load)

## Remote Control Unit (RCU)

### S24056-01



The controller S42056-01 is suitable to control various antenna systems. Main applications are control of matizes, tuning units, antenna axes.

All functions can also be controlled by means of a graphical user interface or via data serial interface RS232. Other data interfaces are available as option e.g. IEEE Std. 488.2 (GPIB) or Ethernet LAN interface (TCP/IP).

Figure – 4: Remote Control Unit (RCU)

#### Technical Data

<b>Electrical</b>	Mains Supply	120/230 V AC 50 Hz 24/7 operation
<b>Mechanical</b>	Dimensions	19"-rack unit 1 to 3 HU depending on application 379 mm depth
	Weight	approx. 9.5 kg
<b>Environmental</b>	Operating temperature	0 to +50°C
	Storage temperature	-10 to +85°C
	Humidity	10 to 90%, non-condensing
<b>Options</b>	Rackmount display and keyboard unit Customer specific control interfaces (e.g. GPIB or TCP/IP) Media converter for use of fiber optic cables Touch-screen with graphical user interface	



Figure – 5: Rackmount display and keyboard unit (optional)