

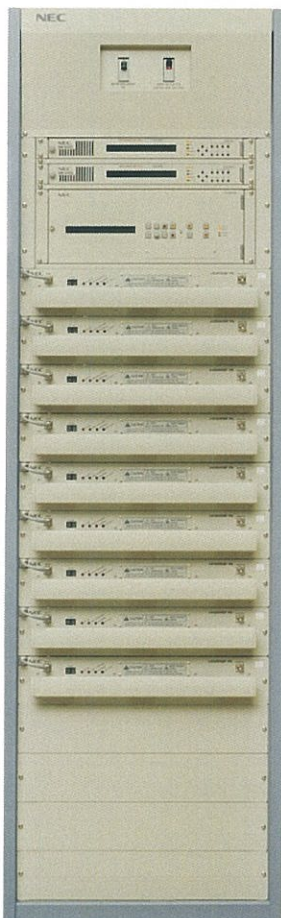
PCU-1700 Series High-Power Liquid-Cooled UHF Analog TV Transmitter

Through NEC's extensive experience and richness in supply records, as well as the feedback received from their end-users, NEC has completed a new high-power UHF Analog Transmitter, the PCU-1700 Series. The system's new features and good characteristics were all came from the previous Series with enhanced functions.

The PCU-1700 is more suitable and user-friendly that could provide a more comfortable use to its customers.

Key Features

- Highest power density: 30kW per a rack
- Switch-over from analog to DVB-T
- Easy modification from analog to digital
- Built-in pump and band pass filter in a rack



Main Features

Small footprint 30 kW per Rack for Analog

NEC has realized to output 3kW per power amplifier unit by installing the latest LDMOS, the system's newest technology. Herewith, the PCU-1700 provides up to 30kW output power by using 9 sets of PA units in a single rack, an achievement of having a footprint of only 615 (W) x 2,000 (H) x 1,200 (D) mm, making it one of the smallest UHF transmitter foot-prints in the world.

All-in-one Solution

For transmitters with up to five power amplifiers, both pump unit and BPF (Band Pass Filter) can be built-in to a rack.

This reduces operation space and is a great advantage when several transmitters are co-located.

Simple upgrade to Digital Transmitter

The PCU-1700 is now ready to meet the future requirements of the end-users for digital service, by simply combination with our own digital exciters, the transmitter is ready for DVB-T/ DVB-T2/ ATSC/ISDB-T broadcast.

PCU-1700 Series Lineup and Configuration Table

Output Power	Model Name	Equipment Composition [sets]					Size (mm)
		Exciter	Exciter Switch	PA	Rack	Cooling Rack	
7.0kW	PCU-1707SSQ(F)/1C	1	-	2	1	Built-in TX Rack	615 (W) x 2,000 (H) x 1,200 (D)
	PCU-1707SSPQ(F)/1C	2	1				
10.0kW	PCU-1710SSQ(F)/1C	1	-	3			
	PCU-1710SSPQ(F)/1C	2	1				
13.0kW	PCU-1713SSQ(F)/1C	1	-	4			
	PCU-1713SSPQ(F)/1C	2	1				
17.0kW	PCU-1717SSQ(F)/1C	1	-	5			
	PCU-1717SSPQ(F)/1C	2	1				
20.0kW	PCU-1720SSQ/1C	1	-	6		1	
	PCU-1720SSPQ/1C	2	1				
24.0kW	PCU-1724SSQ/1C	1	-	7			
	PCU-1724SSPQ/1C	2	1				
27.0kW	PCU-1727SSQ/1C	1	-	8			
	PCU-1727SSPQ/1C	2	1				
30.0kW	PCU-1730SSQ/1C	1	-	9			
	PCU-1730SSPQ/1C	2	1				

PCU-17xxSSQ:
Single Transmitter with Single Drive & Single liquid cooling system

PCU-17xxSSPQ:
Single Transmitter with Dual Drive and Multiple Pas & Redundant liquid cooling system

Other configuration available on request:
PCU-17xxSSW: Dual Transmitter in Active Reserve

Q: liquid cooling system
QF: Built-in liquid cooling system

PCU-1700 Series Specification

Analog general

Items	Specification
Analog Television Systems	B/G, D/K, M
Color Systems	PAL, NTSC
Sound Systems	Monaural, IRT, BTSC, NICAM

Analog Sound Performance

Items	Specification
Frequency Stability	$\leq \pm 2 \times 10^{-7} / 3\text{month}$
Modulation Capability	$\pm 100\text{kHz}$
Aural Input level at 400Hz	0dBm
Pre-emphasis	50us
Frequency Response	$\pm 0.5\text{dB}$
Harmonis Distortion	$< 0.5\%$
FM Noise	-55dB or better
AM Noise	-45dB or better
Synchronous AM Noise	-40dB or better

Analog Video Performance

Items	Specifications
Video input level	1V p.p
Regulation of Output Power	$\pm 0.5\text{dB}$
Variation of Output Power	$\pm 2\%$
Vision Sideband Response (+1.5MHz Ref.)	for B/G
-4.43 MHz	$< -30\text{dB}$
-4.43 MHz to -1.25 MHz	$< -20\text{dB}$
-1.25 MHz to -0.75 MHz	$< +0.5\text{dB}$
-0.75 MHz	$< +0.5\text{dB} / > -4\text{dB}$
-0.5 MHz	$< +0.5\text{dB} / > -1.5\text{dB}$
-0.5 to +4.5 MHz	$\pm 0.5\text{dB}$
+5.0 MHz	$< +0.5\text{dB} / > -2.5\text{dB}$
+5.5 MHz	$< -26\text{dB}$
Frequency Stability	$\leq \pm 2 \times 10^{-7} / 3\text{month}$
Differential Gain	$< 5^\circ$
Differential Phase	$< 5\%$
Incidental Carrier Phase	$\pm 4^\circ$
Signal-to-Noise Ratio(Weighted)	-60dB
2T K Factor	$< 2\%$
20T Equivalent Gain and Delay	Gain: $\pm 10\%$ Delay: $\pm 50\text{ns}$
Spurious (inter-modulation) and Harmonic Radiation	-60dB
In-Channel Intermodulation	-53dB

ISO 9000 Series



ISO 9001 JMI-0119
NEC Broadcast and Video

ISO 14001



ISO 14001 JQA-E-90066
NEC



Safety precautions

To install, make connections and operate this product, please carefully read and observe instructions, precautions and recommendations in our instruction manuals.

• The colours in this brochure may differ from those of the actual unit. Designs and specifications of this product is subject to change without prior notice.

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