真空管音楽交響

Vacuum tube Music Symphony

Stom Ushidate

Functional beauty.
There is no other word to describe the allurement of vacuum tube.
I am fascinated by the beautiful form, which was born in the wake of pursuing ultimate functionality.

A vacuum tube, made of glass or metal, is a hollow bulb whose inside is highly vacuumed and encapsulates electrode.
Vacuum tubes, with controlled electric current between negative and positive electrodes, were utilized for amplification, detection, rectification, oscillation, modulation etc. After the invention of the vacuum tube in the early 1900's, manufacturing technology for it was established in 1930's and it was often used for such things as communication equipment. After 1960's, vacuum tubes were replaced by transistor, furthermore were followed by semiconductor. Today, apart from some special situations, a vacuum tube is not produced any longer, nor is used.
In the past, vacuum tubes were also used for radio and television (cathode-ray tube). They were replaced by transistor radio as well as flat-screen television. Young people would not have heard of them. On the other hand, vacuum tubes are recognized as essential equipment in the field of audio instrument and radio communication system. These methods of use have gained increasing attention in recent years.

I would like to spotlight such tubes, which otherwise would never be on the stage. My aim is to highlight the tubes as art works as well as tools available and usable in our daily life so the allure of tubes can be discovered by more people.
For the last few years, I have devoted myself to revitalize vacuum tubes, which have artistic form and delicate light as illumination art objects.
In the 20th century, vacuum tubes had enjoyed their established mainstream position for almost 70 years.
This book introduces the collections presented at my personal art exhibition held in 2013. Tubes' functional beauty has struck my imagination. I hope you can feel the functional beauty through the five senses.

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INDEX

UL3-S1

845 : Triode for communication,
shuguang, China


Electron
Tube
MADE IN CHINA

UL3-S2

417A : Tube for military radar,
WE (Western Electric), United States

UL3-T1

1006 : Double diode for radio device carried in a military vehicle,
developed for energy- and space-saving purpose,
RAYTHEON, United States

UL3-T2

327A : Triode for military communication equipment,
EIMAC, United States

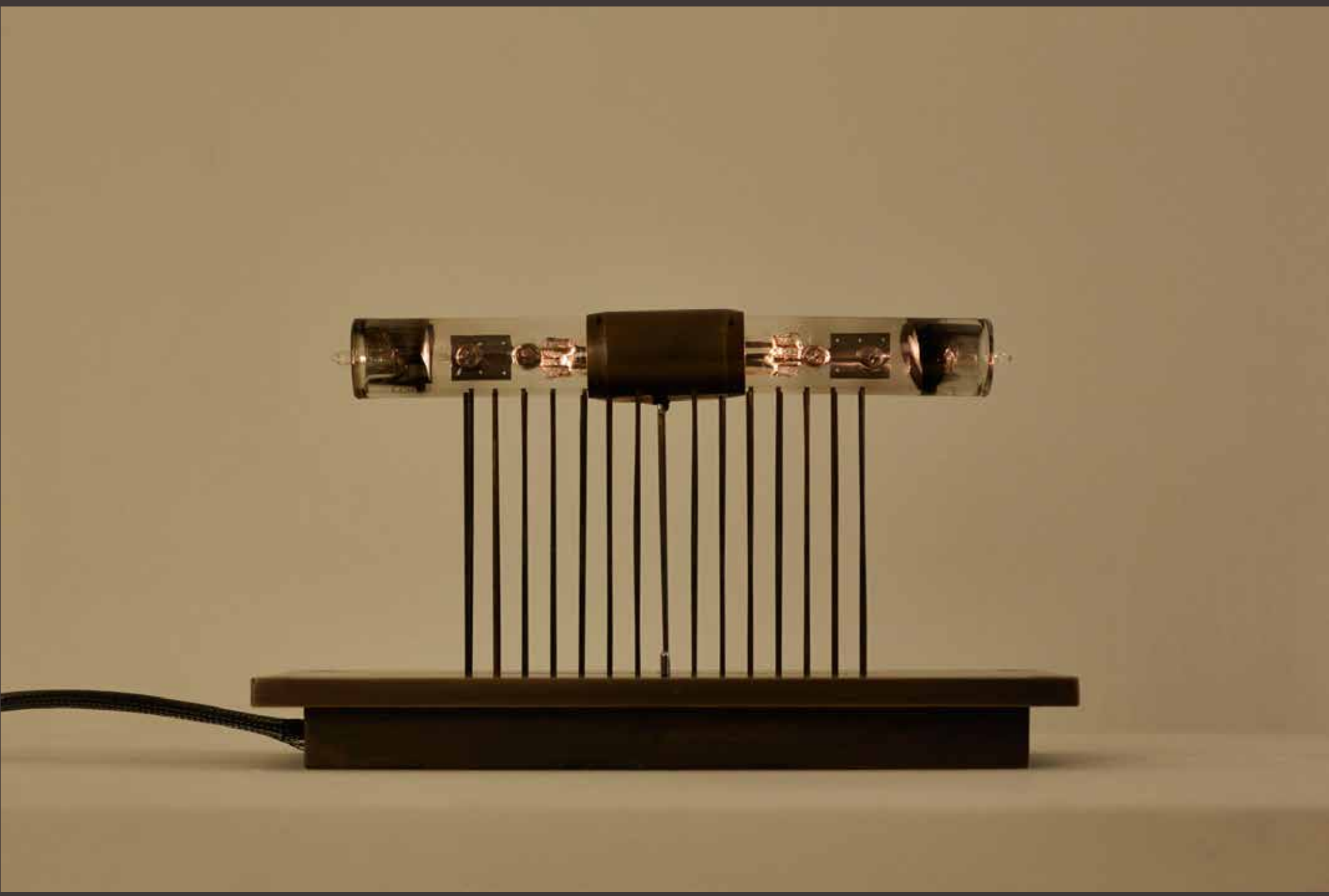
UL3-S3


PHILIPS
TB 2/200
ESA

UL3-S4

UL3-T3

8012：Triode for military communication equipment and other purposes,
RCA (Radio Corporation of America), United States



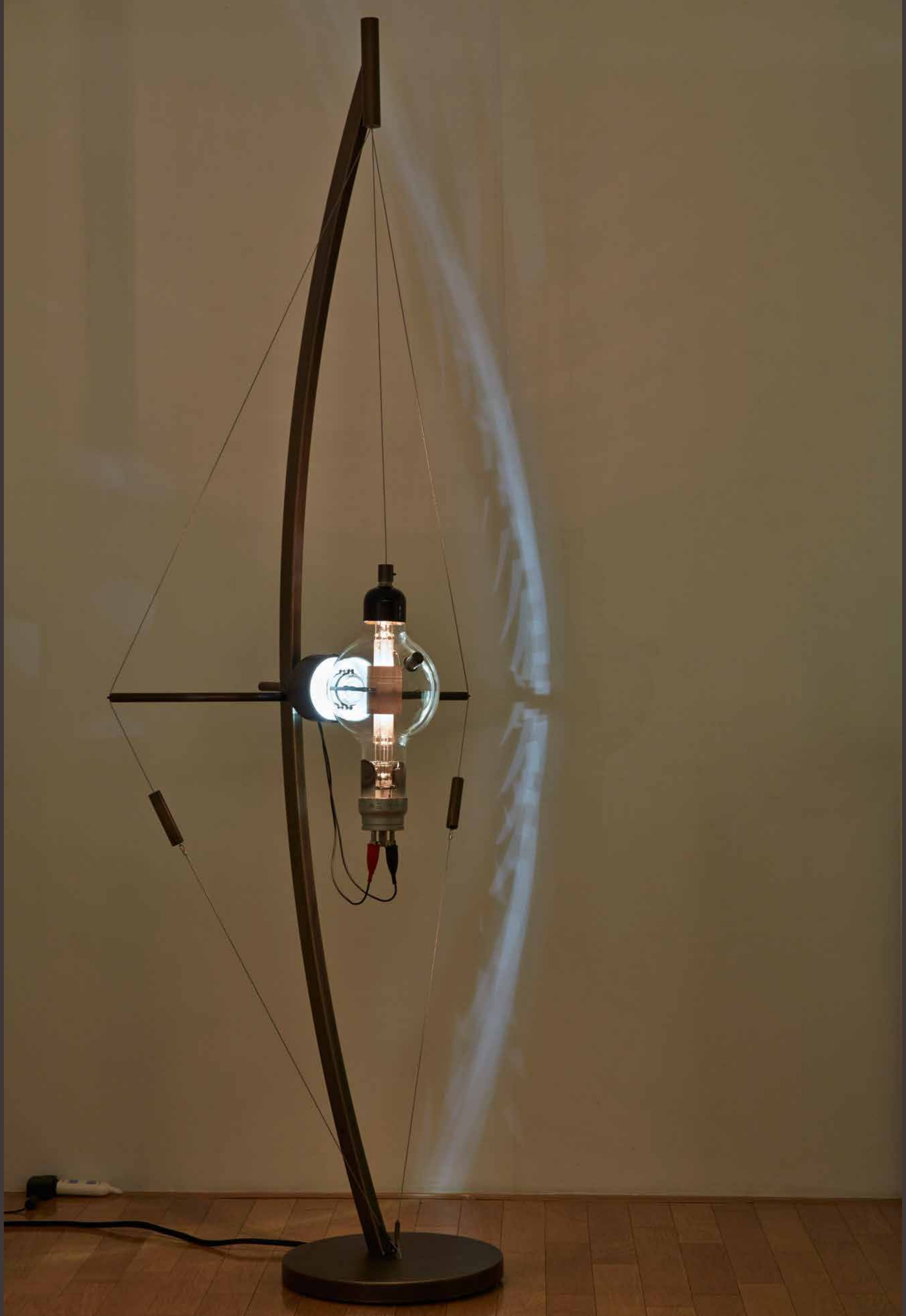
UL3-H1

4304CB : Triode for communication (in special form),
STC (Standard Telephones & cables), United Kingdom

UL3-L1

5G57P : Pulse modulation tube for large-scale radar,
JRC, Japan

UL3-H2



UL3-H3

4P55：Pentode for transmitter tube, uniquely developed in Japan based on NHK's request,
TOSHIBA, Japan

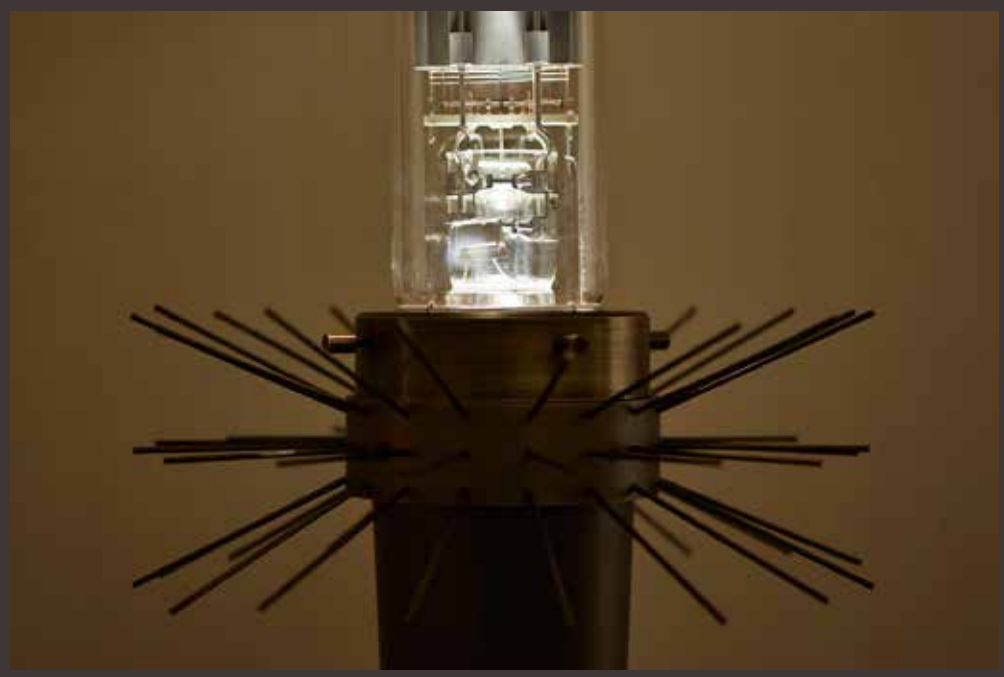
UL3-H4

5T31 : Triode for broadcasting transmitter or industrial high-frequency generator,
NEC, Japan

UL3-H5

100TH：Triode for military communication equipment,
HEINTZ AND KAUFMAN, United States

UL3-H6



4212-E : Triode used for a large speaker at a theater or a movie house or for broadcasting transmitter,
Made by STC(Standard Telephones & cables), United Kingdom, designed by WE (Western electric), United States

UL3-H7

T800-1 : Triode for high frequency welding machine,
THOMSON, France

Stom Ushidate Profile

Interior designer. After taking the advanced study program in his teens, he received substantial attention across the United States for his design work of a large shopping center. In 1988, he moved his base to Japan and worked for multiple commercial building projects from restaurant and bar units, such as Suntory THE-EARTH, Velfarre Roppongi (discotheque), Chinese restaurant Heichinrou, to large scale commercial facilities, Kintetsu Department Store in Nara and Fukuoka Marina Shopping Mall.

From 2006, he has been getting more international clients and worked for several shopping centers in China; Tianyuangang Center in Beijing, Dreams-on in Shenzhen, Joy City in Shanghai and Tianjin. Since THE DDA Outstanding Award for his work, Suntory THE-EARTH Shiodome in 1999, excellent awards including American Institute of Architects (AIA) Award have been granted for his excellent works almost every year. He also won THE GOOD DESIGN Award for Uguisudani Medical Center in 2005.

THE EARTH

AMUSEMENT BEER
RESTAURANT
AREA : 1,125㎡ (BUILDING
TOTAL AREA : 1,635㎡)
OPENING : 1990

VELFARRE

DISCOTHEQUE
AREA : 5,000㎡
OPENING : 1994

SANPIAN CITY MALL KUMAMOTO

SHOPPING MALL
AREA : 32,000㎡
OPENING : 1996

HEICHINROU SHINJUKU

CHINESE RESTAURANT
AREA : 1,006㎡
OPENING : 1998

CRYSTAL MALL HAMASEN

SHOPPING MALL
AREA : 57,000㎡
OPENING : 1998

HEICHINROU SENDAI

CHINESE RESTAURANT
AREA : 733㎡
OPENING : 1998

HEICHINROU TAMEIKE SANNO

CHINESE RESTAURANT
AREA：563㎡
OPENING：2000

UGUISUDANI MEDICAL CLINIC

AREA：680㎡
OPENING：2010

JOY CITY (SHANGHAI) 上海

SHOPPING MALL
COMMERCE AREA：68,000㎡
OPENING：2010

JOY CITY
(TIANJIN) 天津

SHOPPING MALL
BUILDING TOTAL AREA :
530,000㎡
OPENING : 2011

IMIX PARK
(CHONGQING) 重慶

SHOPPING MALLS
BUILDING TOTAL AREA :
100,000㎡
OPENING : 2010

JOY CITY
(YANTAI) 煙台

SHOPPING MALL
BUILDING TOTAL AREA :
290,000㎡(COMMERCE AREA :
130,000㎡)
OPENING : 2014

Vacuum tube Music Symphony

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Photographs : Nakasa & Partner